

# Council of the County Palatine of Durham.

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## ANNUAL REPORT

OF THE

## MEDICAL OFFICER OF HEALTH,

**T. EUSTACE HILL, M.B., B.Sc., F.I.C.,**

INCLUDING A

Summary of the Annual Reports of the  
District Medical Officers of Health,

AND OTHER RECORDS,

**FOR THE YEAR**

**1907.**

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## THE COUNCIL OF THE COUNTY PALATINE OF DURHAM.

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TO THE CHAIRMAN AND MEMBERS OF THE HEALTH  
COMMITTEE.

GENTLEMEN,

In presenting my Seventeenth Annual Report I much regret the lateness of its issue, but the additional duties involved in the organization of the work of School Medical Inspection has been such a strain on my Department that it was impossible to complete the report at an earlier date.

In many respects the county vital statistics were satisfactory, the birth-rate remaining high and the total zymotic deaths showing a satisfactory decline, while the infant mortality-rate was the lowest ever recorded. Unfortunately, the inclement weather during the first and fourth quarters caused a high mortality among the old and feeble from acute lung diseases, otherwise the total death-rate would have been considerably lower.

The population of the county is now undoubtedly under-estimated and consequently the vital statistics are really more favourable than would appear from this report.

My thanks are due to the District Sanitary Officials for the valuable assistance they have invariably rendered me in the discharge of my duties.

I am,

Mr. Chairman and Gentlemen,

Your obedient Servant,

T. EUSTACE HILL.

*February, 1909.*

## THE ADMINISTRATIVE COUNTY.

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**Area.**

There has been no change in the area of the county, which stands at 637,672 acres, and the area of the individual sanitary districts remains the same as in 1906, though an unsuccessful application was made to the County Council for the extension of the boundaries of the Shildon and East Thickley urban district by the inclusion of portions of the area of the Auckland and Darlington rural districts. The name of the district was, however, altered to that of Shildon.

**Number of sanitary districts.**

The administrative county contains five boroughs, 24 urban districts, 14 rural districts, and 2 port sanitary districts.

**Changes in sanitary staff.**

The only changes among the district medical officers of health were the appointment of Dr. Veitch for the Weardale rural district (Derwent division) vice Dr. Connon, and of Dr. Harrison for the whole of the Durham rural district in accordance with the recommendation of the Local Government Board that one medical officer of health instead of two, as formerly, should be appointed for the whole district.

Changes among the inspectors of nuisances occurred in Jarrow borough, Stanhope, and in the Darlington rural district.

**Printing of annual reports.**

The whole of the district annual health reports were printed, with the single exception of that for Leadgate.

### Population.

**Increase of population.**

The population of the administrative county at mid-year 1907 was estimated at 832,900, which exceeds the estimate of the previous year by 10,740. On the other hand, the natural increase in the population, *i.e.*, the difference between the number of registered births and deaths, was 14,788. The estimated population of the urban districts of the county was 480,074, of which 176,614 belong to the five non-county boroughs, while the estimated population of the rural districts was 352,826. Owing to the prosperity of the coal trade and the opening out of a number of new collieries, it is highly probable that the population of the

**Estimate too low.**

county, based on the rate of increase between the censuses of 1891 and 1901, is considerably under-estimated, and according to the estimates of the district medical officers of health, which for the most part are based on the increase in the number of occupied houses in their sanitary areas, the population of the county was at mid-year 1907 877,610, which exceeds by over 44,000 the official estimate, the greater part of this excess (over 33,000) being allocated to the rural districts. The large number of new dwellings erected in many parts of the county without apparently in any way reducing the very serious over-crowding on which I have so often commented is also strong evidence of an abnormal increase in the population. Population.

### Births.

The births registered during 1907 numbered 28,993, equal to a birth-rate of 34.8 per 1,000 population, as compared with 29,007 births and a rate of 35.2 for 1906. In the five non-county boroughs the birth-rate was only 30.4 per 1,000, while in the other urban districts it was 35.6, and in the rural districts it reached the high rate of 36.2. In the districts of Seaham Harbour and Spennymoor the birth-rate exceeded 40 per 1,000, while in all the agricultural portions of the county it was considerably below 30 per 1,000. District birth-rates.

### Deaths.

The total number of deaths registered during the year was 14,205, a decrease of 254 as compared with the previous year, while the death-rate per 1,000 population fell from 17.4 to 17.0.\* This satisfactory fall in the death-rate was to a large extent due to the low mortality from diarrhoeal diseases, which were much less prevalent than usual on account of the cold damp weather experienced during the summer. It is to be noted that the death-rate of the administrative county was nevertheless 2.0 per 1,000 above the total death-rate for England and Wales.

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\* If the total death-rate is calculated on the sum of the estimated populations of the District Medical Officers of Health it is only 16.1 per 1,000 population.

Death-rates  
1903-7.

The following table compares the death-rates for the county and for its urban and rural districts during the past five years with those for England and Wales:—

		1903.	1904.	1905.	1906.	1907.
England and Wales	...	15·4	16·2	15·2	15·4	15·0
Administrative County	...	17·7	18·3	17·4	17·5	17·0
Urban Districts	...	17·7	18·5	17·2	17·3	16·7
Rural Districts	...	17·8	18·1	17·7	17·9	17·4

Quarterly  
death-rates.

As regards the total death-rate in the different quarters of the year, it is to be noted that in none of them was it excessive, the highest being 19·5 in the first and the lowest 13·6 in the third quarter.

District  
death-rates.

The highest death-rates per 1,000 population recorded in the individual sanitary districts were 21·6 in Spennymoor, and 19·7 in Barnard Castle, while in the rural districts the highest rates were in Darlington (19·4) and Durham (17·7).

The lowest recorded rates were in Tow Law (12·5), Blaydon (14·6), and Brandon (14·6), and in the rural district of Stockton (13·2).

The death-rate in the rural districts (17·4) considerably exceeded that for the urban districts (16·7).

Uncertified  
deaths.

The percentage of uncertified deaths was 3·2, which is more than twice as high as that for England and Wales (1·4). The deaths uncertified in consequence of the attendance of unqualified medical practitioners were 74, and 49 of them were in the Spennymoor urban district.

### Infant Mortality.

Reduced  
mortality.

The deaths of infants under one year of age numbered 3,954, equal to an infant mortality-rate of 136 per 1,000 births registered, which is the lowest annual rate of which I have any record.

In the two immediately preceding years the infant mortality-rate was 157 and 159.

Infant mortality.

Although the county infant mortality-rate has shown a tendency of recent years to progressively decline it still very greatly exceeds the rate for England and Wales, which in 1907 was only 118. As has been invariably the case in previous years, the infant mortality in the non-county boroughs (118) was considerably less than in either the other urban districts (142) or the rural districts (138).

The mortality among infants was highest during the fourth quarter of the year (179) when epidemic diarrhoea was most fatal, while in the preceding quarter the rate was only 111. As a general rule the highest infant death-rate occurs during the third quarter.

Quarterly mortality.

The districts with the highest infant mortality-rates were Stanley (177), Shildon (182) and the rural district of Lanchester (Medomsley Division) (178), while on the other hand the rate was as low as 68 at Stanhope and 101 at Leadgate.

District infant mortality-rates.

I have so frequently referred to the causes of the persistently high infant death-rate in this county that it is unnecessary to again discuss them in this report, but it is obvious that the chief causes are the gross overcrowding of dwellings which exists, insanitary surroundings, improper feeding, and the ignorance of the parents.

Causes of high infant mortality.

### Zymotic Diseases.

The diseases usually included under this heading are smallpox, scarlet fever, diphtheria and membranous croup, fevers (enteric and continued, &c.), measles, whooping cough, and diarrhoea, and during 1907 the deaths attributed to them numbered 1,657, equal to a death-rate of 1.98 per 1,000 population, which was a great improvement on the rate for 1906 (2.40), though still much higher than that for England and Wales (1.26).

As was the case with the total and infant death-rates, the zymotic death-rate for the non-county boroughs was considerably less than in either the urban or the rural districts. There was a marked difference in the zymotic death-rate during the different

Quarterly zymotic death-rates.

Zymotic  
diseases.

quarters, the figures varying from 1·49 in the first quarter to 2·83 in the last quarter of the year, when diarrhoea was prevalent.

District  
death-rates.

The districts with the highest zymotic death-rates were Spennymoor (4·2) and Seaham Harbour (3·2), but on the other hand the rate in the Stanhope urban district was only 0·5 per 1,000, while in the rural districts of Darlington and Hartlepool it was as low as 0·4.

Comparison  
with 1906.

In comparison with 1906 there was an increase in the mortality-rate from measles and whooping-cough, and a decrease in the rates from scarlet fever, enteric fever and diarrhoea. The death-rate from diphtheria was unaltered.

Chief vital  
statistics.

In the following table the chief vital statistics of the administrative county during 1907, and of its urban and rural districts are compared with those of England Wales:—

1907.	Total Urban Districts.	Rural District.	Adminis- trative County.	England and Wales.
Birth-rate ... ... ...	33·7	36·2	34·8	26·3
Death-rate ... ... ...	16·7	17·4	17·0	15·0
Zymotic death-rate ... ...	2·00	1·96	1·98	1·26
Infant Mortality-rate ...	134	138	136	118
Small-pox ... ... ...	Nil.	Nil.	Nil.	0·00
Scarlet Fever ... ...	0·06	0·06	0·06	0·09
Diphtheria and Mem- branous Croup ...	0·18	0·23	0·20	0·16
“Fever” (Enteric and Continued) ... ...	0·11	0·08	0·10	0·07
Measles ... ... ...	0·66	0·73	0·69	0·36
Whooping Cough ... ...	0·37	0·25	0·32	0·29
Diarrhoea ... ... ...	0·59	0·59	0·59	0·29

## Small-pox.

Only two cases were notified, as compared with eight in the previous year and 136 in 1906. One of the cases was notified from the Tyne port sanitary district, into which the disease had been imported from abroad, while the other case occurred in Darlington in February. At the end of 1907 there was no serious prevalence of small-pox in any part of England and Wales. Several of the District Medical Officers of Health call attention in their annual reports to the fact that a large population, unprotected from small-pox by vaccination is growing up, and that in consequence serious epidemics of small-pox may be anticipated should the disease be introduced.

## Scarlet Fever.

The very satisfactory decline in the prevalence of scarlet fever, to which attention was drawn in my last annual report, continued during 1907. The notified cases, which had fallen from 4,603 in 1904 to 3,348 in 1905, still further declined from 2,621 in 1906 to 2,234, while the deaths also declined in number from 68 to 55. The death-rate from scarlet fever was lower for the county than for England and Wales, and in no district was the disease seriously epidemic during the year. The death-rate in the rural districts was the same as in the urban districts of the county. As is usually the case, the incidence of the disease was highest during the last quarter of the year, the largest number of cases occurring during the month of October. As regards individual districts, the attack-rate was highest in Felling, Annfield Plain, and Ryton, and in the Easington, Sedgefield, and Weardale rural districts:

Many of the District Medical Officers of Health express the opinion that the disease was spread about in their districts by mild, unnotified cases, while some of them draw attention to the carelessness of parents in not properly isolating the cases. The very mildness of the disease is probably one of the chief causes of its persistence for its fatality has so markedly decreased that it now inspires no dread in the majority of our working-class population. It is satisfactory to note that in many districts a large

Reduced prevalence and mortality.

Causes of spread.

proportion of the cases were treated in hospital, for it is quite impossible to effectually isolate cases of scarlet fever, or, as a matter of fact, any cases of infectious disease, in a large proportion of the dwellings in the industrial districts of this county.

### Diphtheria and Membranous Croup.

The following table indicates that there has been a satisfactory decline in the number of notifications of these diseases during the past three years. It is to be hoped that there will be soon a still greater fall in the death-rate as a result of the more general and early treatment of the cases with diphtheria antitoxin, which is now provided gratuitously to necessitous cases by many of the local authorities. It is to be noted that the death-rate per 1,000 population again exceeded the rate for England and Wales, which was 0·16.

Diphtheria.	Administrative County.				
	1903.	1904.	1905.	1906.	1907.
Cases notified ... ...	1467	1400	1547	1298	1108
Deaths registered ... ...	235	237	210	168	169
Death-rate per 1,000 population	0·29	0·29	0·25	0·20	0·20

The death-rate in the rural districts was somewhat higher than in the urban areas, but as in the previous year the difference is much less marked than formerly. These diseases were most prevalent during the first quarter and during the first month of that quarter, the cases subsequently declining progressively to June. Their incidence was most marked in the Tanfield and Ryton urban districts and in the Easington rural district, but though the cases were widely distributed diphtheria was not seriously epidemic in any particular district. A slight continued prevalence of diphtheria at Chopwell in the Blaydon urban

district was the subject of a special enquiry towards the end of the year, and it appeared that the disease had been spread in the village by mild unrecognised cases. The importance of isolation in hospital of diphtheria cases is pointed out by several of the District Medical Officers of Health, and it is unfortunate that in many districts no attempt appears to be made to isolate them in hospital even where accommodation is available. This matter is specially referred to by the Medical Officer of Health of the South Shields rural district. It is also unfortunate that medical practitioners do not make more use of the facilities granted by the County Council for the bacteriological examination of specimens from suspected cases of the disease, while some medical men have apparently as yet not recognised the fact that the diphtheria bacillus may persist in the throat of a patient for many weeks after all symptoms of the disease have disappeared. It is certainly desirable that in the case of children who have suffered from diphtheria a bacteriological examination should be made of a swab from the throat after all symptoms have disappeared and before they are permitted to return to school.

Diphtheria.

Hospital treatment.

Bacteriological examinations.

Period of infectivity.

### Typhus Fever.

Not a single case of this disease was notified during 1907 in the administrative county. The medical officers of health of the Felling and Hebburn districts took the precaution to issue notices calling the attention of the inhabitants to an outbreak of typhus fever at Gateshead and warning them of the risk incurred by visiting houses occupied by persons suffering from some undiagnosed complaint.

Outbreak at Gateshead.

### Enteric Fever.

In my last annual report I had to deplore the epidemic prevalence of this disease in several districts and also a general high mortality. It is all the more pleasant, therefore, to have to report that in 1907 there were both fewer cases and deaths from the disease than in any previous year of which I have a record. The death-rate per 1,000 population was only 0.10, which is less

Reduced prevalence.

Enteric  
fever.Monthly  
incidence  
of cases.

than half the rate for 1906 and is only slightly higher than the rate for England and Wales (0·07). The death-rate in the urban districts (0·11) was a little higher than in the rural areas of the county (0·08).

The following table gives particulars of the incidence of, and mortality from, enteric fever during each month of the year :—

ENTERIC FEVER IN THE ADMINISTRATIVE COUNTY OF DURHAM.

1907.	No. of Cases.	No. of Deaths.	Case Mortality per cent.	Death-rate per 1,000 Population per annum.
January ... ...	53	13	24·5	0·18
February ... ...	26	10	38·4	0·15
March ... ...	29	4	13·7	0·05
April ... ...	41	7	17·0	0·10
May ... ...	37	4	10·8	0·05
June ... ...	27	2	7·4	0·02
July ... ...	26	7	26·9	0·09
August ... ..	44	3	6·8	0·04
September ... ...	40	8	20·0	0·11
October ... ...	57	10	17·5	0·14
November ... ...	40	7	17·5	0·10
December ... ...	29	10	34·4	0·14
1907 ...	449	85	18·9	0·10

It will be seen that there was no special incidence of the disease in any particular month, the largest number of cases being reported in October. In this respect the number of cases differ

very remarkably from those for 1906, for in that year no less than 618 of the 1,090 cases occurred during the months of September and October, while in 1907 only 97 cases were notified during that period.

Enteric fever.

The next table gives the total number of cases of enteric fever, the total deaths, the case mortality and the death-rate during each of the last five years, and a comparison of the figures for 1907, with those of the four preceding years at once indicates how marked has been the decline both in the prevalence of and mortality from the disease during the year under review:—

Cases and deaths, 1903-7.

#### ENTERIC FEVER IN THE ADMINISTRATIVE COUNTY OF DURHAM.

Year.	No. of Cases.	No. of Death.	Case Mortality per cent.	Death-rate per 1,000 Population.
1903 ... ...	550	95	17·2	0·12
1904 ... ..	809	119	14·7	0·14
1905 ... ..	1,014	158	15·5	0·19
1906 ... ...	1,090	187	17·1	0·22
1907 ... ...	449	85	18·9	0·10

The sudden drop in the prevalence of enteric fever during 1907 cannot to any considerable extent be attributed to improved sanitary circumstances, but, as in the case of diarrhoeal diseases, is very largely the result of the climatic conditions during the summer and autumn being unfavourable to the development of the disease. Some credit must, however, be given to the improved sanitary condition of the county, and the gratifying reduction in the number of cases during 1907, especially after its excessive prevalence during the autumn of the preceding year is undoubtedly largely due to better sanitary administration and to the adoption of stricter precautionary measures.

Causes of reduced prevalence.

Enteric  
fever.

In no district during the year did the disease become seriously epidemic, though in the boroughs of Darlington and Stockton during January and in the rural district of Easington during June the incidence of the disease was higher than in the rest of the county.

Causes.

There was no evidence that pollution of water or milk supplies was to any extent responsible for outbreaks of the disease during 1907. Most of the cases probably had their origin in local insanitary conditions (midden-privies and polluted subsoil) while the consumption of specifically contaminated shell-fish appears to have been not unfrequently the cause of the disease, and the possibility of infected matter being disseminated by flies cannot be disregarded.

District  
death-rates.

The highest death-rates from enteric fever occurred in Shildon and Tanfield and in the rural districts of Auckland and South Shields.

### Continued Fever.

Reduced  
prevalence.

This disease was less prevalent than in the previous year, only 19 cases being reported, as compared with 70 in 1906. Seven of the cases occurred in the Easington rural district, and the only fatal case was also in that district. As I have stated in previous reports, there is very little doubt that the majority of the cases are mild cases of enteric fever.

### Puerperal Fever.

Midwives  
and pre-  
cautionary  
measures.

The number of cases of this disease which had fallen from 64 in 1905 to 36 in 1906, still further declined to 30, while the number of deaths decreased from 31 to 25. There was no special incidence of the disease in any particular month, and cases occurred during every month of the year. The mortality per 1,000 population was somewhat higher in the rural than in the urban districts. Four cases occurred in the practices of midwives and were specially investigated, the midwives being temporarily suspended, and other precautionary measures taken to prevent the spread of infection. A further reduction in the prevalence of puerperal fever may be reasonably expected as a result of the better training and supervision of midwives.

### Erysipelas.

This disease further declined in prevalence, but there was a slight increase in the number of fatal cases, 706 cases with 25 deaths occurring, as compared with 746 cases and 28 deaths in 1906. From a sanitary standpoint a large proportion of the notified cases of this disease apparently have no significance.

### Measles.

The mortality from this disease was exceptionally high, 581 deaths occurring, which is considerably above the average number occurring in the county. The death-rate per 1,000 population was 0·69, which is nearly double the rate for England and Wales (0·36). The majority of the districts, in one part or another, were severely affected, but the mortality was particularly high in the Seaham Harbour, Spennymoor, Stanley, and Whickham districts, and in the Auckland and Durham rural districts. It is stated by the Medical Officer of Health of Whickham that this disease was of an exceptionally virulent character. Also, frequent references are made in the reports to the number of cases complicated by diseases of the respiratory organs owing to the inclement weather, and the necessity for parents treating measles as a grave disease in order to avoid these very fatal complications is emphasised on all hands. Of the total deaths 321 were in the urban districts, and 260 occurred in the rural districts. Owing to the excessive prevalence of the disease there was considerable dislocation of the work of elementary education as the result of the closing of schools.

In the following table the deaths and death-rates from measles for the last five years are given:—

Exceptionally high mortality.

Virulence of disease.

Distribution.

School closure.

Deaths and death-rates, 1903-7.

	ADMINISTRATIVE COUNTY.				
	1903.	1904.	1905.	1906.	1907.
Deaths from Measles ... ...	254	447	393	138	581
Death-rate from Measles per 1,000 population ... }	0·32	0·55	0·48	0·16	0·69

## Whooping Cough.

This disease was the cause of 268 deaths, equal to a mortality-rate of 0·32 per 1,000 population, the rate in the urban districts being somewhat in excess of that for the rest of the county. For England and Wales the rate was 0·29 per 1,000. The disease, which was more prevalent generally than last year, was particularly fatal in Brandon, Crook, Felling and Seaham Harbour, and in several villages in the populous rural districts. The Medical Officer of Health for Spennymoor calls attention to the pressure brought to bear by the School Attendance Officers upon parents of children suffering from whooping cough. He points out that the children may be in an infectious condition for six to eight weeks and that the importunity of the school authorities must result in the spread of a considerable amount of infection. It is certainly most undesirable that children should be admitted to school from any houses where cases of such infectious diseases as scarlet fever, diphtheria, measles and whooping cough are being treated.

## Diarrhœa.

The cold wet weather during the summer months resulted in a most satisfactory decrease in the prevalence of and mortality from this disease, there being only 497 deaths recorded as compared with 1,164 and 734 in the two immediately preceding years. The death-rate per 1,000 population was 0·59, which is nevertheless very considerably higher than the rate for England and Wales (0·29). There were also 124 deaths from enteritis, many of which might be classified as diarrhœa deaths. The diarrhœa rate was the same both in the rural and the urban areas. The highest mortality from diarrhœa occurred during October, (135 deaths), an exceptionally late period of maximum mortality. The disease was most fatal in Leadgate, Spennymoor, Blaydon, Brandon, Hetton and Willington, and in the rural district of Easington. As I have stated in previous annual reports, the deciding factor as to the prevalence of summer diarrhœa is the climatic conditions prevailing during the summer months. Given a long period of warm weather, especially during the latter part of August and the early days of

Want of  
co-ope-  
ration of  
school  
authorities.

Reduced  
death-rates.

Seasonal  
prevalence.

Distrib-  
ution.

Causes.

September, the ill-effects of improper feeding, bad housing, and the pollution of the soil and air about dwellings are certain to manifest themselves in a high diarrhoea death-rate, but when the summer months are cold and wet these predisposing causes do not exercise such a manifestly baneful influence on infant life. It is unfortunately a fact that however careful a mother may be it is impossible to ensure healthy infant life in many of the dwellings in our industrial districts, but there is nevertheless much maternal ignorance as to the feeding and management of infants which is largely responsible for our high infant death-rate, and which is capable of being prevented. I am satisfied that a great reduction in our high diarrhoeal death-rate and infant mortality could be effected by the agency of women health visitors, and by the teaching of domestic hygiene in the higher classes of our elementary schools. It is evident that the more satisfactory statistics for the present year are almost entirely due to the climatic conditions, which were adverse to the prevalence of diarrhoea, and not to any great improvements that have been made in the sanitary condition of the county in general, from the fact that the death-rate for the county was double the rate for England and Wales, as also from the fact that the mortality very seriously increased in the month of October as a result of a short spell of warm weather experienced during the preceding month.

Diarrhoea.

Means of  
reducing  
mortality.

### Infectious Diseases Notification Act.

The following table gives the total number of notifications of infectious disease during each month of the year in the administrative county, and it is satisfactory to note that the figures, which had fallen from 8,242 in 1904 to 7,194 in 1905, still further declined from 5,869 in 1906 to 4,548. The notifications of every infectious disease, but especially of enteric fever, showed a marked decline. The progressive decrease in the prevalence of scarlet fever is especially satisfactory, the total number of cases of that disease notified during 1907 being only a little more than one-half of the number notified 5 years ago. As a matter of fact the total number of notified cases reported during 1907 was more than 1,000 less than the number of cases of scarlet fever alone notified in 1901.

Further  
decrease in  
notifica-  
tions.

# INFECTIOUS DISEASES NOTIFICATION ACT.

Statement of notifiable diseases reported during each month of 1907.

	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Totals.
Small-pox...	...	...	2	...	...	...	...	...	...	...	...	...	2
Scarlet Fever	...	...	212	173	121	163	159	147	139	170	255	246	225
Diphtheria	...	...	108	95	95	89	82	67	67	66	92	91	2234
Membranous Croup	...	10	4	8	5	6	1	2	2	4	8	5	1048
Typhus Fever	...	...	...	...	...	...	...	...	...	...	...	5	60
Enteric or Typhoid Fever.	53	26	29	41	37	27	27	26	44	40	57	40	449
Relapsing Fever	...	...	...	...	...	...	...	...	...	...	...	...	...
Continued Fever	...	3	3	1	2	1	...	2	...	3	2	1	19
Puerperal Fever	...	1	...	2	2	5	3	...	2	5	2	1	7
Cholera	...	...	...	...	...	...	...	...	...	...	...	...	30
Erysipelas	...	56	65	68	49	62	46	52	46	48	69	72	73
<b>TOTALS</b>	...	443	368	324	351	352	291	288	330	447	475	427	4548

## Isolation Hospitals.

With the exception of the urban district of Stanhope and the rural district of Weardale more or less efficient hospital accommodation for cases of ordinary infectious diseases has now been provided. On the 6th May the County Council held an enquiry under the Isolation Hospital Acts at Stanhope as to the desirability of forming these two districts into a joint hospital district, and though there was considerable opposition to that proposal the County Council subsequently issued an order constituting a joint hospital district. It is to be hoped that the required hospital accommodation will now shortly be provided.

During the year the enlarged hospital at Norman's Riding in the Blaydon urban district was opened for the joint use of patients from the Blaydon, Ryton, and Whickham urban districts, and considerable extensions were completed to the isolation hospitals serving the Chester-le-Street and Sunderland rural districts. Owing to a dispute between the councils of Darlington borough and the Darlington rural district the arrangement by which patients from the rural district were treated in the town hospital was unfortunately terminated. Before the end of the year, however, negotiations were entered into for the renewal of the agreement which in the past has worked advantageously to both authorities.

During the year a steam disinfecting apparatus was provided at the hospital of the Barnard Castle rural district, but in some hospitals there is still no efficient steam disinfecting apparatus. The total number of cases isolated in hospitals during the year was 1,289, equal to 33.8 of the total cases notified. In some districts, however, very little use is made of the hospital, and no use whatever appears to have been made of the excellent hospital provided by the Felling urban district council.

## Small-pox Hospitals.

The new permanent joint hospital for the Easington and Sedgefield rural districts, situated near Thornley, was completed during the year; and the erection of a hospital for the Houghton-le-Spring and Hetton joint hospital district was commenced and

Districts without hospitals.

C.C. enquiries.

Extensions.

Darlington R.D.C. and U.D.C. arrangement.

Disinfecting apparatus.

Number of cases isolated.

New hospitals.

Small-pox  
hospitals.

Proposed  
com-  
bination.

practically completed. The hospital for the Chester-le-Street rural district was also completed, as was that for the Blaydon, Ryton, and Whickham districts at Sealburns. No progress was made towards providing a hospital for the Durham and Brandon joint hospital district, though the joint committee were negotiating for a site during the year. As regards a small-pox hospital for the North-East Durham joint hospital district negotiations made progress with the view of the small-pox hospital of the County Borough of South Shields becoming the hospital for the joint district, and towards the end of the year there was a good prospect of such an arrangement, which would probably be as advantageous as it would certainly be economical to all parties, being completed. In the meantime, it was arranged that small-pox patients from the joint hospital district should be received into this Borough small-pox hospital.

### Phthisis and Tuberculosis.

The deaths from phthisis (consumption of the lungs) numbered 817 as compared with 904 in 1906, and the death-rate per 1,000 population was only 0.98 which is the lowest ever recorded in the county. In the urban districts the rate was 1.03, but in the rural districts it was as low as 0.90. The rate for England and Wales was 1.14. The deaths from other forms of tuberculosis however increased from 610 to 667, and the total death-rate from all tuberculous diseases was 1.78 per 1,000 population, as compared with 1.84 in 1906.

In several reports the advantages of sanatorium treatment of phthisical patients, and also the dangers from the consumption of milk from tuberculous cows are referred to. It is also pointed out that bad housing conditions and over-crowding favour the development of tuberculous conditions.

Notifi-  
cation.

In Jarrow and Hebburn where a system of voluntary notification of phthisis is in operation, the result is not satisfactory, only a comparatively small proportion of the cases being notified, and the deaths registered exceeded in number the cases notified. Compulsory notification of phthisis is recommended in the reports

for Felling and Stanhope. More attention is now generally being given by Sanitary Authorities to the disinfection of rooms occupied by phthisical patients, and the people generally are undoubtedly being educated as to the best means of preventing and treating cases of consumption, in consequence of the prominence given to this subject.

Phthisis.

A large number of phthisical patients from sanitary districts within the County were treated in the Sanatorium at Stanhope, which is supported by voluntary contributions and by subscriptions from workmen's societies, local authorities, &c. The patients invariably benefit greatly from their stay in the institution, and in a suitable case an actual cure is often effected, while, as a means of educating the inmates and their friends in the means of preventing the spread of Consumption, the Sanatorium is doing excellent work. A proposal was made during the year to extend the Sanatorium by providing a separate building for female patients.

Stanhope  
Sanatorium.

### Acute Lung Diseases.

There was a considerable increase in the number of deaths from bronchitis, pneumonia and pleurisy, the figures for 1907 being 2,575 as compared with 2,156 in 1906. In consequence, the death-rate per 1,000 population rose from 2.62 to 3.09 and, as in the previous year, the rate was highest in the urban districts. The cold, inclement weather experienced during the early part of the year was largely responsible for the increased number of deaths. The death-rate from these diseases during the first quarter of the year was equal to 4.20 per 1,000 population, while in the third quarter it was only 1.63.

Increased  
death-rate.

### Malignant Diseases.

Allowing for an increase in the population, the deaths under this heading were practically the same as in 1906, the county death-rate being equal to 0.65 per 1,000 population, which is exactly the same as in the previous year.

## Bacteriological Examinations.

The following table gives particulars of the specimens sent by medical practitioners in the administrative county for examination during 1907, in accordance with the arrangement made between the County Council and the Durham College of Medicine:—

	Number of specimens submitted.	Results.		
		Positive.	Negative.	In-conclusive.
Diphtheria ... ...	287	129	145	13
Enteric Fever ... ...	118	44	70	4
Tuberculosis (Phthisis, &c.)	371	142	229	...
Ankylostomiasis ... ...	...	...	...	...
<b>Totals ... ...</b>	<b>776</b>	<b>315</b>	<b>444</b>	<b>17</b>

Compared with the previous year, there was an increase in the number of specimens submitted for examination of 23 and the proportion of positive results to total examinations was 40.5 per cent. as compared with 41 in the previous year. In several reports, the District Medical Officers of Health point out the desirability of more advantage being taken of the facilities afforded by the County Council for verifying doubtful diagnoses of diphtheria, enteric fever and phthisis. It must not be forgotten, however, that the County Council decided to afford these facilities for the purpose of enabling medical practitioners to send specimens for bacteriological examination in respect of *poor* patients who are unable to pay the cost of such examination, and where the patient or his family is able to defray the cost of a necessary bacteriological examination or the patient is located in a public institution, the expense of such an examination ought not to be paid out of the county funds.

## Water-Supply.

Generally speaking, the water-supply of the county was satisfactory during 1907 both as regards quality and quantity, and no serious outbreak of infectious or other disease attributable to a polluted water-supply was reported. In the report for Houghton-le-Spring urban district the water-supply was reported to have been insufficient and also liable to pollution by gas, and a more adequate supply appears to be urgently needed for that district. At Hamsterley Village, in the Auckland rural district, the supply obtained from local wells is reported to be inadequate, and there was also a serious shortage during the year at Wolviston, in the Stockton rural district, which is chiefly dependent on the supply from the Tees Valley Water Board. Arrangements have been made for an extension of the mains of the Sunderland and South Shields Water Company to several populous areas in the Easington, Houghton-le-Spring, and Sunderland rural districts. During the year a better supply was provided at Sherburn Village, in the Durham rural district; at Horden Colliery, in the Easington rural district; at Low Beechburn, in the Auckland rural district; and at Langton, in the Barnard Castle rural district; while the County Council also drew the attention of the District Council to inadequate supplies at Staindrop, Ingleton, and Middleton-in-Teesdale, in the Barnard Castle rural district. In the rural districts of Darlington, Durham, and Sedgefield action was taken by the District Councils for the improvement of the water-supplies to dairy farms with satisfactory results in many instances. The Ryton urban district is now entirely supplied with water from the Newcastle and Gateshead Water Company, and a Bill for the sale of the District Council's water-works to the company was drafted during the year. In the report for the Chester-le-Street rural district the necessity for improving the water-supply to certain houses is mentioned.

Inadequate supplies.

New and improved supplies.

Dairy farm supplies.

## Housing of the Working Classes.

During the year considerable progress was made in the direction of improving the housing accommodation in the county,

Housing of  
Working  
Classes.

and not only was the work of erecting new houses very active in many districts but considerable progress was made with the necessary work of reconstruction or improvement of insanitary dwellings.

L.G.B.  
reports.

During the year valuable reports were issued by the Local Government Board setting forth the results of inspections made by their Medical Inspectors in the Brandon and Whickham urban districts and in the Chester-le-Street rural district. In all these reports, and especially in the report by Dr. Darra Mair on the Whickham urban district and in that of Dr. Fletcher on the Chester-le-Street rural district, the housing conditions of the mining districts of the county are clearly set forth, as are also the difficulties in promptly dealing with the bad conditions which exist in so many of those districts. Those reports should be carefully read by all those interested in the housing question in the County of Durham, more especially as the advantages and objections connected with the supply of "free" houses to miners are fully dealt with.

During 1907 definite action was taken by the Sunderland Rural District Council under Part iii. of the Housing of the Working Classes Act, 1890, for the erection of workmen's dwellings, application being made to the Local Government Board for sanction to a loan of £21,500 for the erection of such dwellings in the parishes of Ryhope and Silksworth. The Board held an enquiry into the application, which was opposed by the Railway Company, the Sunderland Corporation and Colliery Owners, and the decision of the Board had not been given up to the end of the year.†

County  
Council—  
Usworth.

The County Council also took action under Part iii. of the Housing Act, 1890, on the complaint of the Usworth Parish Council as to the want of housing accommodation in that township, and it was decided towards the end of the year to make application to the Local Government Board to borrow £12,000 for the purchase of land at Usworth and the erection of houses.

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† The Local Government Board have since sanctioned the loan.

The area of the land proposed to be purchased is sufficient to allow of 100 houses being built, but in the first instance the County Council proposes to erect only 50 houses. Before deciding to proceed under Part iii. of the Act on the default of the Rural District Council every effort was made to induce employers of labour in the township, and the district council, to take steps to supply the deficiency of houses, but no satisfactory undertaking could be obtained.

During the year an agreement was come to between the owners and the County Council for the abolition within a stated period of the back-to-back houses at Pelton Fell Colliery, and among other places where action was taken by the County Council for the improvement of the housing conditions may be mentioned East Hetton, Shotton Colliery, Wingate, South Wingate, Trimdon Grange, Leamside, Middle Rainton, Usworth District and Ushaw Moor Colliery.

During the year the County Council exercised its statutory powers under Section 45 (2) of the Housing of the Working Classes Act, 1890, in respect of 138 dwellings, and but for the great deficiency of house accommodation throughout the county and the consequent difficulty of housing tenants displaced by the closing of insanitary dwellings, a considerably larger number of insanitary houses would have received attention.

The following table, compiled from information kindly supplied by the District Surveyors and Sanitary Inspectors, shows the number and distribution of houses erected and occupied in the Administrative County during 1907, and also the number of insanitary houses dealt with by the District Sanitary Authorities under the Housing of the Working Classes Acts during that period, but in spite of the large number of new houses erected there is still very great overcrowding of dwellings in most of the industrial districts which must militate against the health and morals of the people affected.

Housing of Working Classes.

County Council's action respecting unhealthy dwellings.

New houses erected and occupied during 1907.

New houses  
erected and  
occupied  
during 1907.

District.	Number of Houses Erected.	Number of New Houses Occupied.	Housing of the Working Classes Acts.		
			Number of Dwellings Dealt with.	Number of Dwellings made Habitable.	Number of Dwellings Perma- nently Closed.
URBAN.					
Darlington Borough	208	208	..	..	..
Durham	22	22	5	4	1
Hartlepool	7	7	3	..	3
Jarrow	35	35	..	10	12
Stockton	243	243	..	..	3
Annfield Plain	72	72	16	4	13
Barnard Castle	26	20	..	..	7
Benfieldside	22	22	54	46	4
Bishop Auckland	63	63	1	1	..
Blaydon	279	279	48	6	8
Brandon and Byshottles	88	76	..	..	..
Consett	*79	44	..	..	..
† Crook	..	..	..	..	..
Felling	65	65	43	10	9
Hebburn	36	36	11	..	..
Hetton-le-Hole	64	55	..	..	..
Houghton-le-Spring	33	33	..	..	..
Leadgate	40	40	..	..	..
Ryton	161	159	..	..	..
Seaham Harbour	121	53	18	8	5
Shildon	41	40	..	..	..
Southwick-on-Wear	26	26	..	..	3
Spennymoor	69	58	1	..	1
Stanhope	1	1	..	..	..
Stanley	179	157	66	59	7
Tanfield	106	106	12	12	2
Tow Law	..	..	..	..	..
Whickham	123	96	2	4	2
Willington	21	21	..	..	..
RURAL.					
Auckland	268	236	15	9	5
Barnard Castle	9	7	..	..	..
Chester-le-Street	426	383	32	7	66
Darlington	93	87	..	..	1
Durham	156	156	28	18	10
Easington	423	371	34	16	5
Hartlepool	5	5	..	..	..
Houghton	313	281	96	35	21
Lanchester	202	202	1	..	..
Sedgefield	430	430	65	32	11
South Shields	74	49	..	..	..
Stockton	78	78	..	..	2
Sunderland	89	89	35	6	11
Weardale	14	13	1	..	1
Administrative County	4,810	4,429	587	287	213

\* Plans passed for 79 houses, number actually erected not stated.

† No return received owing to change of Sanitary Inspector.

## House Drainage, Sewerage, and Sewage Disposal.

Extensions and improvements in sewerage are reported in many districts. In some of the older pit villages, however, open channels, usually more or less defective, are still used for the reception of the house slops and a few Sanitary Authorities and Colliery Owners still oppose their abolition with a tenacity worthy of a better cause, for they are invariably a serious source of nuisance to persons living near them and using them, and frequently assist in the spread of enteric fever and diarrhoea.

Open channels.

Among the villages where these open channels still exist, and are most objectionable, may be mentioned Brandon Colliery, Framwellgate Moor, East Hetton, Murton Colliery, South Hetton, Wingate, and Trimdon Grange and Trimdon Colliery, and in most of these villages enteric fever and diarrhoea have from time to time been prevalent when the climatic conditions have been favourable.

During the year an enquiry was held by the Local Government Board into an application by the Auckland Rural District Council to borrow £13,000 for sewerage and sewage disposal works to be constructed near South Church with the object of preventing serious pollution of the River Gaunless by sewage from a populous district. The sanction of the Board was given during the year to a scheme of sewage disposal for Chilton Buildings and Windlestone in the Sedgefield rural district.

L.G.B.  
enquiries.

The Local Government Board also held an enquiry into an application by the Spennymoor Urban District Council for the compulsory purchase of a site for sewage disposal works, but the application was subsequently refused.

From the following tables it will be seen what action has been taken by the County Council and what progress made by the district authorities towards preventing pollution of watercourses in the County. A list of places is also given where sewage disposal works are still needed for the prevention of pollution of important watercourses.

County  
Council's  
action  
during 1907.

**A STATEMENT of STATUTORY NOTICES SERVED during 1907 and Results.**

Defendants.	Place.	Stream Polluted.	Date of Notice.	Result of Notice without Legal Proceedings.
Auckland R.D.C.	Coundon Sewage Works	Coundon Beck ..	31-7-07	Plans prepared to extend these works.
Bishop Auckland U.D.C.	Bishop Auckland ..	River Wear ..	18-5-07	The D.C. endeavour to obtain a site for purification works.
Chester-le-Street R.D.C.	Pelton Village ..	Chester Burn, &c. ..	31-7-07	A Committee has been appointed to inspect this place and report to D.C.
Do.	Pelton Fell Colliery ..	Do. ..	31-7-07	Do.
Do.	Ouston Colliery, Ouston Village, Perkinsville, &c. ..	Rowletch Burn, &c. ..	31-7-07	A sewerage scheme has been prepared.
Easington R.D.	South Hetton ..	Hesleden Beck ..	13-11-07	The D.C. hope to formulate a definite scheme in a month or so.
Lanchester R.D	Lanchester ..	Smallhope Beck, &c. ..	21-7-07	The D.C. think the iron-water should be taken out of the stream first.
Do.	East Hedley Hope ..	River Deerness ..	31-7-07	The D.C. think the sewage above this village should be dealt with first.
Do.	Hamstcel Colliery ..	Priest Beck ..	31-7-07	The volume of colliery-water entering the stream is 50 times as large as that of the sewage.
Do.	Ushaw Moor ..	River Deerness ..	31-7-07	Site selected and D. Surveyor preparing plans.
Do.	Ushaw Colliery ..	Do. ..	31-7-07	The D.C. ask for this to be deferred for a short time.
Sedgefield R.D.C.	Coxhoe Sewage Works ..	Coxhoe and Tursdale Becks ..	15-4-07	Works put into order.
Stanhope U.D.C.	Stanhope ..	River Wear ..	3-8-07	The D.C. have adopted a scheme and are negotiating for land.

# A STATEMENT of COUNTY COURT PROCEEDINGS taken during 1907 and Results.

Defendants.	Place.	Stream Polluted.	Date of Proceedings.	Result of Action.
Auckland R.D.C.	Witton Park ..	River Wear ..	16-4-07	Mr. J. W. Brown, C.E., of West Hartlepool, was appointed to carry out the duties of the D.C. (Sec. 10, R.P.P. Acts, 1876).
Annfield Plain U.D.C...	Kyo Sewage Works ..	Kyo Burn, &c...	14-8-07	An Engineer was appointed to report to the Court under Sec. 10, R.P.P. Acts, 1876.
Do.	Dipton Sewage Works ..	Dipton Burn, &c.	14-8-07	Do.
Chester-le-Street R.D.C.	Alma Pit Sewage Works ..	Stanley Burn ..	13-5-07	Further adjourned for 3 months to allow improvements to be carried out.
			3-8-07	Withdrawn on payment of costs.
Sedgefield R.D.C.	Mainsforth Terrace, Chilton Lane, &c. ..	River Skerne, &c.	19-4-07 18-6-07 23-10-07	Adjourned for two months. Adjourned to October Court. Further adjourned for three months.
Tow Law U.D.C.	Tow Law ..	River Deerness ..	18-2-07 3-8-07 9-11-07	Adjourned six months to enable D.C. to proceed with the necessary work. Adjourned for three months. Adjourned to the 8th February next to enable works to be completed.

SEWAGE WORKS PROVIDED DURING 1907:—

BLAYDON URBAN DISTRICT—

Victoria Garesfield, Smailes Estate.

BRANDON URBAN DISTRICT—

West Sleetburn (East Side).

CONSETT URBAN DISTRICT—

Crookhall, Consett.

DURHAM RURAL DISTRICT—

Sherburn Colliery (East Side).

EASINGTON RURAL DISTRICT—

Murton Colliery; Deaf Hill Colliery and Trimdon Grange Foundry.

LANCHESTER RURAL DISTRICT—

Hedley Hope.

SEDGEFIELD RURAL DISTRICT—

Chilton Lane, Mainsforth Terrace, &c.

Works to be  
provided.

List of places where the District Council at the end of 1907  
had undertaken to provide works:—

AUCKLAND RURAL DISTRICT—

Witton Park; Eldon Colliery; Auckland Park Colliery;  
South Church.

CHESTER-LE-STREET RURAL DISTRICT—

Ropery Lane, Chester-le-Street.

EASINGTON RURAL DISTRICT—

South Hetton Colliery.

SEDGEFIELD RURAL DISTRICT—

Bishop Middleham.

BISHOP AUCKLAND URBAN DISTRICT—

Bishop Auckland.

BLAYDON URBAN DISTRICT—

Blackhall Mill; Rowlands Gill; Chopwell Colliery.

BRANDON AND BYSHOTTLES URBAN DISTRICT—

Browney Colliery.

DURHAM URBAN DISTRICT—

Durham.

SPENNYMOOR URBAN DISTRICT—

Spennymoor (whole district).

STANHOPE URBAN DISTRICT—

Stanhope.

POLLUTIONS STILL UNREMEDIED:—

Polluting districts.

RIVER GAUNLESS AND TRIBUTARIES.

AUCKLAND RURAL DISTRICT—

Butterknowle; Copley Bent; Low Evenwood; The Oaks and a portion of Evenwood; Spring Gardens; West Auckland; St. Helen's, Auckland; Tindale Crescent, St. Andrew; Fielden's Bridge, St. Andrew; South Church; Eldon Colliery; Auckland Park.

BISHOP AUCKLAND URBAN DISTRICT—

Bishop Auckland.

RIVER SKERNE AND TRIBUTARIES.

DARLINGTON RURAL DISTRICT—

Aycliffe; Haughton-le-Skerne.

SEDGEFIELD RURAL DISTRICT—

Bishop Middleham.

RIVER BROWNEY AND TRIBUTARIES.

CHESTER-LE-STREET RURAL DISTRICT—

Witton Gilbert.

DURHAM RURAL DISTRICT—

Bearpark Colliery; Crossgate Moor.

LANCHESTER RURAL DISTRICT—

Lanchester; Ushaw Colliery and Broom Lane Terrace; Hamsteels Colliery and Railway Terrace.

BRANDON AND BYSHOTTLES URBAN DISTRICT—

Browney Colliery.

CROOK URBAN DISTRICT—

Peases' West, Stanley.

TOW LAW URBAN DISTRICT—

Tow Law.

RIVER WEAR AND TRIBUTARIES.

## AUCKLAND RURAL DISTRICT—

Witton Park; Hunwick, &c.; Todd Hills; Sunnybrow; Byers Green; Binchester Blocks.

## CHESTER-LE-STREET RURAL DISTRICT—

Ropery Lane, Chester-le-Street; Pelton Village; Pelton Fell Colliery; Plawsworth; Plawsworth Bar, &c.

## DURHAM RURAL DISTRICT—

East Hetton; California, Coxhoe; Kimblesworth.

## WEARDALE RURAL DISTRICT—

Ireshopeburn; Eastgate; West end of Westgate.

## BISHOP AUCKLAND URBAN DISTRICT—

Bishop Auckland.

## DURHAM URBAN DISTRICT—

Durham.

## SPENNYMOOR URBAN DISTRICT—

Tudhoe Village; Tudhoe Colliery; Tudhoe Grange; Low Spennymoor.

## WILLINGTON URBAN DISTRICT—

Page Bank.

**Excrement Disposal and Removal.**

Abolition of  
midden-  
privies.

In many of the district annual reports gratification is expressed at the progress made with the work of abolishing the midden-privy, which in the past has been such a fertile source of disease in the County. In most districts a smaller and more sanitary ash-closet has now taken its place with the result that a marked improvement in the public health has been noted. I regret to say, however, that important details in the construction of ash-closets are frequently overlooked, lighting and ventilation often being extremely defective. A properly lighted closet is much more likely to be kept clean, while without efficient ventilation, an ash-closet is bound to be a nuisance to those using it. A space of two or three inches ought to be left between the top and bottom of the door and the door frame, while in the back

wall there should be either a large louvred ventilator or a series of air-bricks. In some of the annual reports, the advantages of water-closets over ash-closets are specially mentioned and it is satisfactory to note that some of the district sanitary authorities are recognizing these advantages and are favouring water-closets in the houses of the working-classes. In a few districts, the contents of some of the conveniences have to be conveyed through houses or house-passages whenever scavenging is undertaken, and in the report for Stockton Borough, there is said to be 217 houses where nightsoil has to be so removed. In all such instances water-closets should be promptly insisted upon. There can be no doubt that the water carriage system has very great sanitary advantages over any conservatory system of excrement disposal.

Excrement  
disposal  
and  
removal.

The work of scavenging in nearly all the populous areas of the County is now either performed by contract or is undertaken by employés of the district authorities. In the reports for Blaydon, Brandon, and Crook and the Rural Districts of Auckland, Chester-le-Street, South Shields, and Stockton, reference is made to the unsatisfactory scavenging by contractors, and in several instances the district authority itself is urged to undertake the work. In the report for the Barnard Castle rural district, public scavenging is recommended in larger villages, while the medical officer for Sedgefield advises that the scavenging should be undertaken at night time, in the populous portion of his district. In the reports for Benfieldside and Hebburn and the rural district of Auckland, the provision of a refuse destructor is recommended to overcome the difficulty of satisfactorily disposing of house refuse, etc., while the medical officer of health for Weardale (St. John's) points out the necessity for the provision of refuse tips in suitable positions. The difficulty in providing refuse tips in a position where they will not cause a nuisance is increasing every year and the erection of refuse destructors will, in those cases, become a necessity at no distant date. During the year, complaint was made to the County Council of nuisance from a refuse tip at Crossgate Moor, Durham, and steps were taken to minimise the nuisance as far as possible.

Scavenging.

Importance  
of night  
scavenging.

Refuse  
destructors.

## Dairies, Cowsheds, and Milkshops.

**Importance  
of pure  
milk  
supplies.**

The importance of purity in the milk supply is gradually being recognized by the general public and in many districts more attention is given by district officials to the sanitary state of the cowsheds and dairies than was formerly the case. The prejudices and mistaken notions of those engaged in the milk trade are, however, very difficult to overcome especially with the limited sanitary powers possessed by local authorities, and it is not easy to impress on a cowkeeper that cleanliness, and proper construction and ventilation of the cowbyres are necessary to the health of the cows and for the purity of the milk. In a considerable proportion of sanitary districts in the county, I fear that the supervision of the milk supply is still far below what is required, but in those districts where a systematic inspection is carried out and the sanitary officials have the support of their authorities in the work, very considerable improvement has resulted in the conditions under which cows are housed. In some districts, notably in the rural districts of Darlington, Durham, and Sedgefield, systematic action has been taken for the improvement of the water supply to dairy farms. In many of the reports reference is made to the danger of the spread of tuberculosis by the consumption of milk of cows infected by that disease, and in my opinion legislation is required for the periodical examination and testing of all milch cows and for the prevention of the sale of milk of animals which are found to be tuberculous. The danger is a very real one and one which is capable of being removed without any serious hardship to those engaged in the milk trade. During the year, a conference of County Councils and Sanitary Authorities was held in Newcastle at the instance of the Newcastle Corporation to consider the means of combating the spread of tuberculosis especially by means of milk, and at a subsequent conference in London it was decided to form a Supreme National Health Authority which will endeavour to deal with the matter. The Southwick Urban District and the Sunderland Rural District Councils have appointed veterinary surgeons to periodically examine all the cows in their district and the medical officer of health for

**Milk  
supplies  
and tuber-  
culosis.**

**Supreme  
National  
Health  
Authority.**

**Veterinary  
inspection  
of milch  
cows.**

Durham rural district recommends periodical veterinary inspection of the cows in his district. During 1907 new regulations under the Dairies, Cowsheds, and Milkshops Order came into operation in Jarrow, Barnard Castle, Hetton-le-Hole, and in the Durham rural district. In the report for Spennymoor reference is made to the risk of milk contamination by exposing it for sale, or storing it, in shops where vegetables and other commodities are sold.

Dairies, &c.  
New regulations.

### Slaughter-houses.

As a general rule, only short reference is made in the annual reports to the condition of these structures, but in many instances the slaughtering is either done in the butchers' shops or in other more or less unsuitable premises. An exception must, however, be made in respect of many of the new slaughter-houses erected in connection with Co-operative Societies, where the buildings are of good construction and regard is had for cleanliness and humane methods of slaughtering. In no sanitary district has a public slaughter-house been provided. In the reports for Durham, Hebburn, Durham rural district, and several other districts, the provision of a public slaughter-house is recommended. In some districts (Whickham) slaughter-houses are not registered and in the report for Spennymoor reference is made to insufficient supervision of such structures. Bye-laws were adopted during the year in the Barnard Castle rural district.

Public  
slaughter  
houses.

Bye-laws.

### Food and Drugs Act.

The number of samples taken for analysis in the administrative county, exclusive of boroughs, by the county or district officials during the year was 925, and of these 93, or 10.05 per cent., were certified to be adulterated. In the previous year the number analysed was 951, of which 82, or 8.6 per cent., were found to be adulterated.

The administration of the Act in the non-county boroughs is undertaken by the borough officials, and of the 252 samples taken for analysis, 22, or 8.7 per cent., were certified to be adulterated.

## Factories and Workshops.

In the majority of the reports reference is made to the supervision exercised over these places and the tabulated statement required to be appended to the annual reports of medical officers of health was, in most instances, filled up. Judging from the small proportion of defects noted relative to the number of factories and workshops inspected, it would appear that the great majority of these structures are in a good sanitary state. There appear to be very few persons in the county who undertake work in their homes.

## Common Lodging Houses.

In very few of the reports are these places the subject of special comment, but they appear to have received more or less systematic supervision. In some of the reports (Stockton) reference is made to the unsuitability for the purpose of houses which have been registered as common lodging-houses, and no doubt much of the accommodation provided is unsatisfactory. A new lodging-house, which meets with the approval of the medical officer of health, was opened during the year at Houghton-le-Spring, and the medical officer of health of Hebburn urges the importance of suitable common lodging-houses being provided to accommodate single men, who at present lodge in private houses which are, in consequence, overcrowded. The number of registered common lodging-houses in the county is comparatively small, and in many districts well-constructed properly managed common lodging-houses would be an advantage from many points of view.

## Streets and Back Streets.

In many urban, as well as in most of the rural districts, the condition of the streets, especially the back streets, is most objectionable, and in many of the district health reports the necessity for making, paving, and channelling these streets is strongly urged. In the reports for Houghton-le-Spring, Ryton, and Tow Law, special reference is made to the unsatisfactory condition of many of the streets, and in these districts, as well as

in many others, the Private Street Works Act might, with advantage, be put into operation. In the mining districts, the paving and channelling of the back streets is the most important, for they are much more used than are the front streets in spite of the fact that the latter are usually better paved and cleaner.

Streets and  
back  
streets.

### Bye-Laws.

During 1907, bye-laws respecting new streets and buildings were adopted for the Whickham urban district, and steps were taken to revise the building bye-laws in force in the rural district of Darlington and in several other districts. The medical officer of health of Chester-le-Street recommends the adoption of bye-laws in respect of tents, vans and movable dwellings, and the medical officer of health for Darlington states that steps were taken respecting some dwelling vans, the occupants of which were causing a nuisance in the borough. The attention of the Local Government Board was called by the County Council to the action of the Easington rural district council in permitting new houses to be erected at Dalton-le-Dale, which did not comply with the building bye-laws, and in some other districts, objectionable conditions, which would not be permitted in newly erected houses, have been perpetuated in houses which have been reconstructed. Increased powers of control in respect of alterations to existing dwellings are given to sanitary authorities by the Public Health Acts Amendment Act, 1907, and it is to be hoped that this important Act will be universally adopted by local authorities throughout the country.

P.H.A.  
Amend-  
ment Act,  
1907.

### Midwives Act, 1902.

All the certified midwives in the county were periodically supervised by the two county lady midwives inspectors and the supervision has resulted in a very marked improvement in the cleanliness of the midwives and in the general knowledge of their duties. Owing to misconduct, four midwives were struck off the Midwives Roll at the instance of the County Council, while nine voluntarily relinquished their certificates owing to ill-health, inability to comply with the Rules of the Central Midwives Board, or for other

Super-  
vision.

Removals  
from Roll.

Midwives  
Act, 1902.

Number of  
certified  
and  
practising  
midwives.

Distribu-  
tion of new  
Rules.

Guardians  
and pay-  
ment in  
urgent  
poor cases.

Medical  
inspection  
of school  
children.

reasons. All cases of puerperal fever occurring in the practises of midwives were specially enquired into as were also, as far as possible, all still-births. The number of certified midwives in the County declined from 253 on the 31st March, 1907, to 223 at the end of March, 1908, while the number of midwives who gave notice of their intention to practise in the County during 1907 was 186. The midwives were instructed by the County inspectors as to the proper keeping of their registers, case-books, etc., and as to the use of clinical thermometers and other appliances. A copy of the new Rules of the Central Midwives Board was supplied free of charge to each of the practising certified midwives in the County.

During the year, the Local Government Board issued a circular as to the desirability of Poor Law Guardians paying a reasonable fee to medical practitioners called in on the advice of certified midwives to attend poor persons in cases of urgency when the services of the Poor Law medical officers were not available. The County Council subsequently communicated with the Boards of Guardians in the County advising the adoption of the Local Government Board's recommendation, and in several Unions this has been done.

### Elementary Schools.

The extensive alterations and sanitary improvements in these buildings referred to in my last annual report were continued during 1907. It was also decided to erect a large number of new schools, some of them to take the places of old schools, which were structurally unfit for educational purposes. The passing of the Education (Administrative Provisions) Act during the year, which from the 1st January, 1908, imposes the duty of medical inspection of school children on education authorities, is a very important measure, and if the Act is administered in a proper spirit it should result in a great improvement in the general health of the children, while sanitary and other defects in the schools and surroundings will be more readily brought to light in consequence of the periodical visits of the medical inspector. Towards the end of

1907, the Board of Education issued a very valuable memorandum (No. 576) on the medical inspection of school children, setting forth the scope and purpose of the Act, the organization necessary, the subsidiary agencies to be made use of, the character of the medical inspection, the regulations as to such inspection, and the action which it may be found desirable ultimately to take for the amelioration and physical improvement of school children, and at the request of the County Education Committee, I reported at length on this memorandum and expressed my views as to the best arrangements for carrying out the medical inspection in this county.

Owing to the serious and general prevalence of measles, a very large number of the elementary schools, especially the infants' departments, were temporarily closed during 1907, but there seems to be considerable divergence of opinion on the part of the District Medical Officers of Health as to the value of such school closure for cutting short the progress of an epidemic of measles. In the reports for Shildon and Spennymoor the action of School Attendance Officers in urging the attendance at elementary schools of children from infected houses is criticised.

Medical  
inspection  
of school  
children,  
continued.

School  
closure.

Infectious  
disease and  
school  
attendance.

### Sanitary Legislation, 1907.

The following important Acts were passed during the year :—

(1) The Public Health Acts (Amendment) Act, 1907, which is an adoptive Act and gives largely increased powers to sanitary authorities in respect of streets and buildings, houses, drainage, the provision of improved sanitary conveniences, infectious diseases, and common lodging-houses. In fact the Act enables Urban and Rural Authorities to adopt most of the sanitary powers granted to local authorities by special Acts of Parliament.

P.H.A.  
(Amend-  
ment)  
Act, 1907.

(2) The Notification of Births Act, also an adoptive Act, which enables a sanitary authority to obtain information of every birth occurring in its district soon after birth and which, in conjunction with the appointment of lady health visitors, should enable sanitary authorities to take effective steps to reduce the infant mortality in their districts.

Notification  
of Births  
Act.

(3) The Education (Administrative Provisions) Act, which imposes on Local Education Authorities the duty of providing for the medical inspection of all children in elementary schools.

All the above-mentioned Acts are of great importance and, if properly administered, should lead to a marked improvement in public health and general sanitation.

### Local Government Board Enquiries.

The following Local Government Board enquiries were held during the year into applications from Local Authorities in the County for loans for sanitary purposes :—

1907.	Applicant.	Amount.	Purpose.	Result.
Jan. 30	Sunderland R.D.C.	£21,500	The provision of dwellings under Part III. of the Housing of the Working Classes Act, 1890, in the Parish of Ryhope and the Township of Tunstall.	Loan sanctioned.
Jan. 31	Spennymoor U.D.C.	—	A Provisional Order to empower U. D. C. to put in force, with reference to certain lands required by them for purposes of sewage disposal, the powers of the Land Clauses Acts with respect to the purchase and taking of lands otherwise than by agreement.	Order refused.
Mar. 4	Stockton R.D.C.	£3,864	Works of storm water drainage for the Parish of Norton.	Not proceeded with.
Mar. 27	Bishop Auckland U.D.C.	£650	The purchase of a field at West Mills, Bishop Auckland, for purposes of water supply.	Loan sanctioned.
July 17	Auckland R.D.C.	£13,000	Works of sewerage and sewage disposal for the Townships of Auckland Saint Andrew, Coundon, Coundon Grange, and Eldon, and the Parish of Pollard's Lands.	Loan sanctioned.

1907.	Applicant.	Amount.	Purpose.	Result.	L.G.B. enquiries, 1907, continued.
Nov. 19	Jarrow Corporation.	£290	Works of sewerage in Dee Street, Northbourne Road and St. Paul's Road.	Loan sanctioned.	

### County Council Enquiries.

The following tabulated statement contains a list of enquiries bearing on public health administration held by the County Council during the year 1907:—

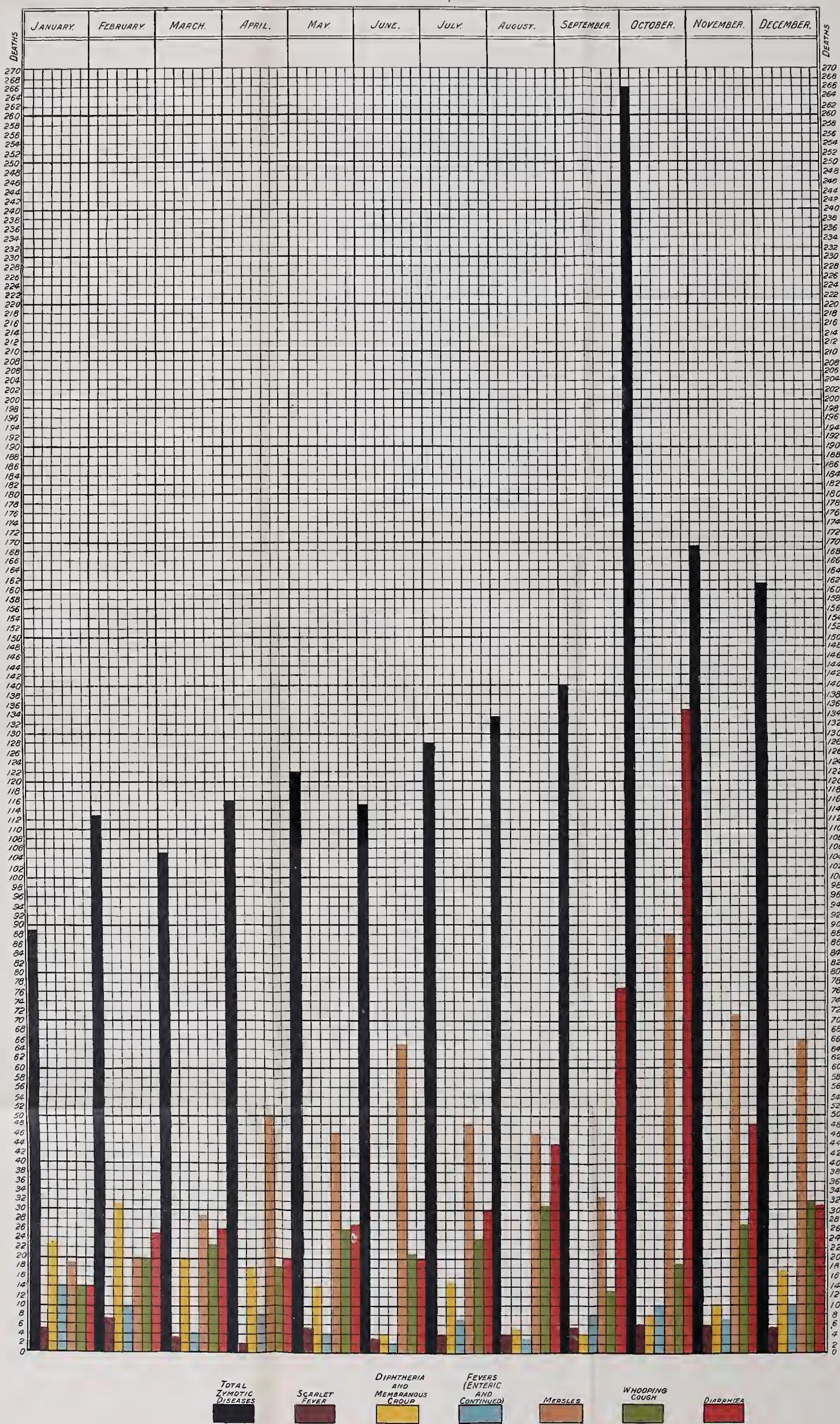
1907.	Applicant.	Subject of Enquiry.	Result.
Jan. 8..	Sunderland R.D.C.	Amalgamation of part of the Township of Bis- hopwearmouth Without with the Township of Ford and of the re- mainder of the first- named Township with the Township of Tun- stall.	Application refused.
May 6..	County Health Committee.	Isolation hospital accom- modation for Weardale R.D.	} C.C. Order made 6th November, 1907, for Joint Hospital District.
,, 6..	Ditto.	Isolation hospital accom- modation for Stanhope U.D.	
May 15..	Shildon and East Thickley U.D.C.	Extension of boundaries and alteration of name of U.D.	Application refused as to extension of boundaries, but name altered to "Shildon U.D."
Dec. 11..	Chester-le-Street P.C.	Formation of the Town- ship of Chester-le-Street and a portion of the Township of Pelton, both in the Chester-le- Street R.D., into an Urban District. (Chester-le-Street U.D.)	C.C. Order made 20th May, 1908 (No. 151), to come into opera- tion 31st March, 1909. (Chester - le - Street Township only to form U.D.)

The following table and chart give certain monthly vital statistics, and appended to the report are other statistical tables.  
(See index).

TABLE SHEWING THE NUMBER OF BIRTHS, DEATHS, AND DEATHS FROM THE CHIEF ZYMOTIC DISEASES  
IN THE ADMINISTRATIVE COUNTY OF DURHAM, DURING EACH OF THE MONTHS OF 1907.

	Births.	Deaths.	Deaths under 1 year.	Total Zymotic Deaths.	Small-pox.	Scarlet Fever.	Diphtheria and Membranous Croup	Fevers (Enteric and Continued).	Measles.	Whooping Cough.	Diarrhoea.
JANUARY .. ..	2599	1460	373	89	..	5	23	14	19	14	14
FEBRUARY .. ..	2273	1313	332	113	..	7	31	10	20	20	25
MARCH .. .. ..	2418	1248	347	105	..	3	20	4	29	23	26
APRIL .. .. ..	2556	1209	288	116	..	2	18	8	50	18	20
MAY .. .. ..	2485	1200	295	122	..	5	14	4	46	26	27
JUNE .. .. ..	2539	991	277	115	..	3	4	2	65	21	20
JULY .. .. ..	2508	985	242	128	..	4	15	7	48	24	30
AUGUST .. .. ..	2499	959	284	133	..	4	5	3	46	31	44
SEPTEMBER .. ..	2250	926	285	140	..	5	4	8	33	13	77
OCTOBER .. .. ..	2273	1263	423	266	..	6	8	10	88	19	135
NOVEMBER .. .. ..	2257	1217	357	169	..	6	10	7	71	27	48
DECEMBER .. .. ..	2336	1434	451	161	..	5	17	10	66	32	31
TOTALS .. .. ..	28993	14205	3954	1657	..	55	169	87	581	268	497

CHART SHEWING THE NUMBER OF DEATHS DURING EACH MONTH OF 1907 FROM THE SEVEN CHIEF ZYMIC DISEASES.



TOTAL  
ZYMIC  
DISEASES

SCARLET  
FEVER

DIPHTHERIA  
AND  
MEMBRANOUS  
CROUP

FEVERS  
(ENTERIC  
AND  
CONTINUED)

MEASLES

WHOOPING  
COUGH

DIARRHEA

NOTE.—There were no deaths from small-pox during the year.



## BOROUGHS.

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### DARLINGTON.

JAMES LAWRENCE, M.D., Medical Officer of Health.

Area in Acres, 3,956.      Estimated Population, 1907, 50,000.

Birth-rate.	Death-rate.	Zymotic death-rate.	Infant mortality-rate.
28.2	14.4	0.88	115

Phthisis death-rate, 0.94.      Respiratory diseases death-rate, 2.3.

There was a further decline in the birth-rate, which was the lowest on record, and much below that for the county. The mortality statistics were very satisfactory and compare favourably with those of the previous year, except as regards the respiratory diseases death-rate. Dr. Lawrence points out how dependent Public Health is on education and expects that the medical inspection of school children will have a far-reaching effect in promoting sanitary progress.

### INFECTIOUS DISEASES.

The number of cases notified was only 136, or little more than half the number reported during 1906. The most prevalent diseases were diphtheria and croup 53, and scarlet fever 52 cases. There were only 17 cases of enteric fever notified, the majority of these occurring during the early part of the year and none of them appeared to be caused by the drinking of polluted water. Whooping cough was the only zymotic disease which caused any serious mortality (21 deaths), but there were 13 deaths attributed to influenza. Seventy-two per cent. of all the cases notified were treated in the isolation hospital, as also were eight cases from the Darlington Rural District. The report states that the Corporation decided during the year to refuse admission to patients from the Rural District, and the importance of the Rural District Council providing hospital accommodation for their infectious cases is urged, especially as much of the milk consumed in the borough

comes from the Rural District, while many children in that district are educated in the Borough schools. The report does not state what precautionary measures as to disinfection are adopted in the borough.

### GENERAL SANITATION.

The public water supply was satisfactory and a periodical analysis proved its quality to be excellent. Samples of water from six wells were analysed and four were found to be polluted. The owners subsequently complied with notices to close them. One order to close an insanitary house was made. Dealing generally with house accommodation, Dr. Lawrence states that there is less over-crowding than formerly, owing to over 2,000 houses having been built in the town since 1901, and in addition a number of easily accessible houses just outside the borough. Notices were served on the owners of several travelling vans occupying waste plots in the borough, owing to the want of water supply and other sanitary requirements, which resulted in them leaving the town. During the year, 177 old-fashioned ashpit-privies were abolished, water closets being substituted in 132 instances, and during the last 10 years, 650 ashpit-privies have been dealt with. Scavenging appears to have been satisfactorily performed and arrangements have been made by the Corporation for minimising nuisances from the refuse from fish-shops and fish fryers by providing covered galvanized pails and frequent scavenging. No reference is made to the sewerage or sewage disposal, but the drains are stated to have been well flushed when required. The cowsheds and dairies received attention and two cowsheds, which were insanitary, were closed, while structural alterations were made to another. Several others were found to be filthy, but the intervention of the Inspector had the desired effect. One dealer in goat's milk was registered. Slaughter-houses were, for the most part, kept in good order, but the regular limewashing of the walls was found to be often neglected. In several cases extensive structural alterations were made. There were several applications for licenses, six of which were granted.

References are made in the report to nuisances arising from pigsties placed in improper positions or kept unsatisfactorily. The offensive trades of the town were the subject of a special report by the Inspector and were inspected by a Sub-Committee; several butchers who have carried on fat-rendering have since discontinued the practice. Tripe-boiling is carried on in 17 places.

Factories and workshops received supervision, 306 visits being paid and 34 defects remedied without recourse to proceedings. It is stated that employers do not furnish the list of outworkers, as required, although circulars were issued to them calling their attention to the fact that they should furnish lists of their outworkers on the 1st February and the 1st August in each year. There are 65 bakehouses and 341 workshops on the register.

Under the Food and Drugs Act, 107 samples were analysed, of which 19 were found to be adulterated, but the extent of the adulteration was so small that in no instance were legal proceedings instituted, cautioning of the vendors by the Town Clerk being deemed sufficient. Several consignments of fish and fruit were condemned and destroyed during the year. The Inspector of Nuisances reports that 2,248 nuisances were abated, that 112 lots of infected bedding and 118 infected houses were disinfected, and that 208 new dwelling houses were erected and occupied during the year.

#### SANITARY REQUIREMENTS.

1. Regulations for the prevention of nuisances through the keeping of pigs.
2. The employers of labour should be required to periodically supply their list of outworkers, as required by the Factory and Workshop Act.

#### DURHAM.

A. M. VANN, M.R.C.S., Medical Officer of Health.

Area in Acres, 1,065. Estimated Population, 1907, 17,200.

Birth-rate. Death-rate. Zymotic death-rate. Infant mortality-rate.

25.8	17.2	1.28	137
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Phthisis death-rate, 1.22. Respiratory diseases death-rate, 2.84.

The chief points to be noted in the vital statistics are the greatly reduced birth-rate, a higher total death-rate and phthisis death-rate and greatly diminished zymotic and infant mortality rates, these decreases being attributable to the cold summer and the consequent diminished prevalence of infantile diarrhœa. Dr. Vann states that the question of a Lady Health-Visitor was much discussed during the year, and "I believe that the ministrations "of such a person, possessed of the necessary qualities, would be "productive of much good. It would also be of advantage for such "subjects as domestic and personal hygiene to be taught during "the last year or so of school life, at an age when the individual is "so impressionable and habits are being formed which will probably "last a lifetime."

### INFECTIOUS DISEASES.

The total notifications numbered 31, the smallest number recorded since 1895, with one exception. Dr. Vann attributes the diminution in the prevalence of scarlet fever to the Notification Act and the resulting isolation and control of cases of the disease. Diphtheria diminished in prevalence and only three cases of typhoid fever were reported. No case of smallpox occurred, but "it is to be hoped, however, that the public will not be lulled "into a false sense of security by reason of our comparative "immunity from this dread disease for so many years. I "know of only one method by which a community can be, "as I believe, absolutely safeguarded from attack, and that "is by efficient vaccination and re-vaccination. Isolation is, "of course, of the greatest value; but if, in such a disease as "this, the attack is sudden and more or less widespread, "the means of isolation may fail, and in a badly vaccinated "community the result will most probably be a very disastrous "epidemic." The corporation resolved that for six months from the 6th May cerebro-spinal fever should be included among the diseases to be compulsorily notified in the borough. Fortunately, no case occurred. Measles was epidemic on several occasions during the year, causing nine deaths and necessitated the closing and disinfection of several schools. There were 11 deaths from

infantile diarrhoea, and Dr. Vann points out the importance of cleanliness in and around the house and in the food supply in preventing this fatal disease. The value of the isolation hospital is referred to and all the cases of scarlet fever, with three exceptions, were treated therein. Satisfactory comment is made as to its administration, and Dr. Vann again urges the necessity for hospital accommodation being provided for smallpox cases. He is of opinion that it can be best and least expensively provided by joining with the Durham Rural District Council for the purpose.

### GENERAL SANITATION.

The public water supply was satisfactory.

A large amount of sanitary work is reported to have been effected, systematic house-to-house inspection having been made by Dr. Vann and the Inspector, resulting in the remedying of many defects arising from dampness in houses, ill-paved yards, and insanitary privies. In 27 instances ashpit-privies were replaced by waterclosets. Under the Housing of the Working Classes Act, five houses were closed, four of them being subsequently reconstructed, and at the end of the year 11 tenements were being dealt with. As to housing, Dr. Vann says:—“More houses for the working classes are, however, urgently required in the City, and persons interested in this very important subject could do no greater service than by building streets of such dwellings of a suitable size and rental. Failing such private enterprise, it will become necessary for the Council to give the matter thorough consideration, and to decide upon the possibility of its undertaking work in this direction.” Details are given of the progress made with the new sewerage scheme, which appears to have been satisfactory.

Cowsheds have received careful attention, especially as regards cleanliness, whitewashing, and ventilation, and their condition has of recent years been greatly improved. The slaughter-houses and common lodging-houses are also reported to have been kept in a fairly good condition, and two additional licences were conditionally granted for common lodging-houses.

Under the Factory and Workshop Act, 242 inspections were made and 56 defects (37 arising from want of cleanliness) were remedied after notice had been served. There are 176 workshops and 12 bake-houses on the register.

Dr. Vann refers at some length to legislation bearing on public health which has been recently passed. He advises the adoption of the sanitary clauses of the Public Health Acts Amendment Act, 1907, but thinks that the adoption of the Notification of Births Act, 1907, may with advantage be deferred, and he states that he has already reported on the question of medical inspection of school children to the Town Council. The Inspector of Nuisances states that 945 nuisances have been abated, that 22 new houses were erected and occupied, that two were condemned as unfit for use, and that 12 houses and five schools were disinfected after infectious disease.

All the 10 samples analysed under the Food and Drugs Act were found to be genuine.

### SANITARY REQUIREMENTS.

1. Improved housing accommodation.
2. The appointment of a Lady Health Visitor.
3. Small-pox hospital accommodation.
4. The adoption of the sanitary clauses of the Public Health Acts Amendment Act, 1907.

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### HARTLEPOOL.

J. RAWLINGS, M.R.C.S., Medical Officer of Health.

Area in Acres, 735.	Estimated Population, 1907, 24,000.		
Birth-rate.	Death-rate.	Zymotic death-rate.	Infant mortality-rate.
28.9	15.6	1.5	116
Phthisis death-rate, 0.87.		Respiratory diseases death-rate, 3.1.	

All the chief mortality statistics compare favourably with those of the previous year owing to the damp mild summer and the comparatively mild winter, which were favourable to the health of the old and very young. Comment is made on the

continued high death-rate of the North Ward, where the largest insanitary area is situated and in which area the death-rate exceeds the birth-rate.

### INFECTIOUS DISEASES.

There were 42 cases notified, or two less than in 1907, and of these 27 were scarlet fever. There were five cases of diphtheria and only two of enteric fever. Only three cases were removed to the isolation hospital, which is the property of the Port Sanitary Authority. The report states that there is still opposition on the part of the parents to the removal of their infected children from home. No case of smallpox occurred.

The non-notifiable diseases caused a comparatively high mortality, there being 11 deaths from both diarrhœa and whooping cough and 10 from measles, the prevalence of the last-named disease necessitating the closing of the elementary schools in the Middleton Ward, and the opinion is expressed that with more care in treatment the mortality from whooping cough might be diminished.

### GENERAL SANITATION.

Satisfactory reference is made to the general water supply, to the town drainage, and to the condition of the dairies, cowsheds, milkshops, and slaughter-houses. Under the Housing of the Working Classes Act, three insanitary houses were closed as unfit for habitation, and a great sanitary improvement is reported in a long row of tenemented property known as Robson's Buildings. On this subject Dr. Rawlings remarks:—"The Housing Question "and the closing of insanitary dwellings is still, in my opinion, "the most important factor with regard to the health of the town, "and I hope that before long something considerable may be "accomplished in this direction."

The common lodging houses were fairly well conducted, but scarcely any of them came up to the necessary standard. The refuse destructor has worked well, and the administration of the Factory and Workshop Act has received attention, 90 inspections having been made with the result that 10 nuisances were abated,

and sanitary accommodation provided in two cases. There are stated to be no outworkers in the borough. Of 70 samples analysed under the Food and Drugs Acts, only two were found to be adulterated. Some consignments of food were destroyed owing to their unwholesomeness. Seven new houses were occupied during the year, and since the last census (1901), 232 new houses have been occupied and 33 insanitary houses closed.

The Inspector of Nuisances, in a separate report, deals with the several matters coming under supervision, and it appears that 307 nuisances were abated and that 17 rooms were disinfected, but the disinfection of infected bedding and clothing appears to be left to the occupants.

### SANITARY REQUIREMENTS.

An improvement in the housing conditions, more especially in the insanitary area in the North Ward.

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### JARROW-ON-TYNE.

J. M. NICOLL, M.B., Medical Officer of Health.

Area in Acres, 1,064.      Estimated Population, 1907, 34,700.

Birth-rate.	Death-rate.	Zymotic death-rate.	Infant mortality-rate.
33.3	16.1	0.98	121

Phthisis death-rate, 1.52.      Respiratory diseases death-rate, 3.4.

There was an increase in the birth-rate, while the zymotic and infant death-rates were the lowest ever recorded in the borough and for an industrial population are very satisfactory. The phthisis and acute lung diseases death-rates were however high. During the third quarter of the year, the total death-rate was only 11.9 per 1,000 population, the highest death-rate (19.5) occurring in the first quarter. In the different wards, the highest total death-rate was in the East (20.7) and North (19.3), but the death-rate was as low as 10.5 in the Grange Ward. The comparative uselessness of the voluntary notification of phthisis is exemplified by the fact that only 14 notifications were received, though the deaths from that

disease numbered 53. Dr. Nicoll expresses the opinion that many of the infantile deaths from acute lung diseases could be obviated by more care on the part of the parents, especially as to unsuitable weather conditions to which infants are only too often carelessly exposed.

### INFECTIOUS DISEASES.

There was a slight increase in the number of notifications from 116 in 1906 to 142, the most prevalent diseases being scarlet fever (55 cases), erysipelas (35), and diphtheria (27). There is nothing of outstanding importance to record as to the prevalence of the chief notifiable diseases, but it is satisfactory to note that the total number of cases of enteric fever notified was only one-half that for the previous year, and one-fourth of that for 1905. The report does not refer to the probable causes of the cases. Diarrhoea was the cause of 15 deaths, as compared with 27 in the previous year, while the deaths from whooping cough fell from 15 in 1906 to two, and the mortality from measles from 21 to 2. Forty-seven infectious patients were isolated in the borough hospital, but none of the cases of diphtheria were treated in the hospital.

### GENERAL SANITATION.

Ten dwellings were dealt with under the Housing of the Working Classes Act and were subsequently made habitable. The insanitary properties mentioned in the annual report for 1906 have, with one exception (the houses in Walter Street which have been permanently closed) been very much improved. Legal proceedings were taken respecting the block of insanitary property in High Street, and a magistrates' order, which was obtained, received prompt attention. Fifty-two privy-middens were abolished during the year, and the few that remain (about 50) are to be dealt with during the present year; in nine cases water-closets were substituted. Dr. Nicoll urges the importance of constant supervision of much of the property in the town, and says "this with our present staff is quite impossible, and I should

"urge the Council to bring our staff up to its previous strength, "either by the addition of an Assistant Inspector, or by putting "into effect the resolution already carried by the Council of "appointing a Lady Health Visitor and Inspector combined. To "carry out the very many multitudinous sanitary duties necessary "for the health and well-being of the town and its inhabitants "two inspectors are none too many for our requirements." The performance of the work of scavenging and removal of refuse is commented upon favourably, but nothing definite has been done to prevent the pollution of the river Don. In 82 instances cemented yards were provided where the yard paving was defective, but the report impresses the necessity for the proper paving of the back streets, many of them at present requiring attention. The adoption of the Public Health Acts Amendment Act of 1907 is recommended.

There are 26 workshops on the register and 42 inspections were made in connection with these, and one defect found which was remedied. The number of outworkers is six and 10 employers give out home work.

The Inspector of Nuisances reports that 2,700 nuisances were abated; that 10 dwellings were made habitable, and 10 permanently closed under the Housing of the Working Classes Act, 1890; that 14 self-contained dwellings and 21 tenements were erected and occupied; that 41 samples of food and drugs were analysed, four samples of milk being adulterated; and that 147 houses and 147 lots of infectious bedding and four schools were disinfected. The Inspector states that the dairies and milk-shops, slaughter-houses, and lodging houses were inspected and found to be clean and to be kept in compliance with the bye-laws.

### SANITARY REQUIREMENTS.

1. An increase in the sanitary staff.
2. The adoption of the Public Health Acts Amendment Act, 1907, (Sanitary Provision).
3. The proper macadamising or paving of the back streets.
4. The prevention of the pollution of the river Don.

## STOCKTON.

THOMAS HORNE, M.D., Medical Officer of Health.

Area in Acres, 3,031. Estimated Population, 1907, 55,023.

Birth-rate.	Death-rate.	Zymotic death-rate.	Infant mortality-rate.
30.2.	17.3.	1.7	115

Phthisis death-rate, 1.25. Respiratory diseases death-rate, 3.43.

The population is based on the estimated number of inhabited houses and is probably fairly accurate, but Dr. Horne states that he fully recognises that his estimate cannot be given with any great amount of confidence, and he advocates the establishment of a quinquennial census. Since 1901, the greatest increase of population has been in the South-West Ward (361 new houses), while in the Central, North-West and West-End Wards the number of new houses erected exceeds 100 in each ward. On the other hand, in the South-East Ward there has been an actual decrease in the houses since 1901 of 76, equal to a population (estimated) of nearly 500. In the different wards, the highest birth-rates were in Tilery (38.4) and Victoria (36.2), while in the North-West Ward the birth-rate was as low as 22.4. The highest total death-rate was in the South-East Ward (23.2), and the lowest in the Exchange Ward (12.2). The death-rate from acute lung diseases was very high, and, in Dr. Horne's opinion, some of the deaths from bronchitis and pneumonia were primarily due to measles, the lung affection being a complication of that disease. The infant mortality-rate for the borough was very much below the average, but the report points out that there is still a great waste of infant life, in proof of which may be cited the fact that the average infant mortality-rate in New Zealand is only 77. Dr. Horne gives the following as the chief causes of infant mortality:—  
*Before birth*—Constitutional parental debility; too little, or unsuitable, food during pregnancy; intemperance; living among insanitary surroundings; undue excitement and late hours; abuse of drugs. *After birth*—Ignorance; improper feeding, mainly secondary to the former; alcohol, blunting the moral sense, leading to poverty, neglect and physical deterioration;

insanitary environment, vitiating air and food; unclean milk supply; overcrowding. In Dr. Horne's opinion, the more important remedies, are:—Education; Temperance in all things; Clean and airy houses; Natural feeding of offspring; A pure milk supply. The death-rate from phthisis was the same as in 1906, and was considerably in excess of the county rate.

### INFECTIOUS DISEASES.

The notified cases decreased from 282 in 1906 to 210, a number which is less than half the average of the previous 10 years. The number of cases of scarlet fever was only 60, as compared with an average of 250 during the preceding 10 years, and it is satisfactory to note that not a single one of the cases proved fatal. The advantages resulting from shielding a child against infection during the first few years of life are referred to, for, as age increases, the susceptibility and danger to life, should the individual become infected, are diminished in most of the common infectious ailments. Diphtheria was responsible for 58 cases, most of them occurring during the winter months. In 12 instances the disease proved fatal. There were 52 cases of enteric fever with eight deaths, and in all 43 households were involved. As to the accuracy of the diagnosis of some of the notified cases, there appears to be doubt. Personal infection played a very important part in the spread of the disease, and in Dr. Horne's opinion at least 10 persons were so infected, eight cases occurring amongst the inmates of a single house, the disease having been spread apparently from one of the family, the nature of whose illness was not diagnosed. Neither water nor milk supplies were, so far as could be ascertained, responsible for any of the cases, but in many of the infected houses insanitary conditions, arising usually from the dirty habits of the householders were found, while in two cases the consumption of shell-fish, and in one instance the eating of water-cress, were suspected as causes of the disease. The greatest number of cases (13) occurred during the month of January. Measles was responsible for 31 deaths, as compared with one in the previous year, and the report points out that this disease occurs in epidemic

form in alternate years, or at the latest, every third year. Dr. Horne also says:—"My experience teaches me that measles especially is a disease in which only commonplace care is requisite in the vast majority of attacks to obviate a fatal termination." There were 25 deaths from whooping cough, but only 38 from diarrhoea, as compared with 68 in the previous year. Regarding the conditions affecting the prevalence of this disease, the following remarks of Dr. Horne are of interest:—

"Probably the low mortality in both these years was the result of similar meteorological conditions, for the summer of 1902, like that of last year, was cold and damp. The following influences tend to avert incidence of epidemic diarrhoea.

"A low atmospheric temperature—this is inimical to the life processes of the organisms which are the proximate cause of the disease.

"A low soil temperature—for a similar reason.

"Frequent rainfall—this tends to maintenance of low temperature of both air and soil. In addition, it acts as an efficient scavenger. It carries down suspended impurities from the air. It cleanses street and other surfaces, and thus it prevents infective dust from gaining an entrance to dwellings and so reaching food.

"Absence of house flies—these insects carry excretal and other forms of contamination from privy-middens, garbage, dust bins, &c., and transfer their burdens to any food upon which they may happen to alight."

Reference is made in the report to a death from anthrax, the disease having probably been contracted from infected fat used for lubricating purposes.

There were only three cases of puerperal fever notified, and it is to be noted that one of these was attended by a midwife and the other two by "handy" women. None of the cases proved fatal. The number of cases admitted into the isolation hospital was 153, and of these 128 were resident in the borough. Over 75 per cent. of the total number of notified cases of scarlet fever, diphtheria, and typhoid fever were treated in the hospital. Dr.

Horne suggests the consideration of the question as to whether the smallpox hospital could be reasonably used for a restricted number of suitable cases of consumption. During the year a steam washing plant was installed at the isolation hospital. The number of houses that were disinfected by the sanitary staff was 72, and a large number of infected articles were also disinfected by superheated steam.

### GENERAL SANITATION.

No reference is made in the report under review to the water supply of the town.

During the year 243 new houses were certified as fit for occupation. Generally speaking, Dr. Horne thinks that those designed for the working class tenants may be properly described as excellent. In the majority of the new houses baths and water closets were provided. Three insanitary houses were demolished by the owner, but no formal action under the Housing Acts appears to have been taken by the Town Council. Only slow progress was made with the work of abolishing ashpit-privies, which are so numerous in the district. In only 107 instances were insanitary conveniences replaced by water closets. The report states that approximately 6,847 dwellings in the borough have common privies, while there are 479 pan-privies. The report also states that in the process of removal, night-soil has still to pass through 217 houses and domestic refuse through 437 houses. Rather more than one-half of the total quantity of privy and domestic refuse collected was burnt at the destructor, as also was a large quantity of trade refuse.

The sewerage and drainage of the town is reported on favourably. A good deal of systematic inspection was carried out during the year by the Medical Officer of Health and Inspectors, and Dr. Horne states that appreciable progress in the direction of proficiency was made during the year. Good work was also performed by the Lady Health Visitor, who made over 1,000 systematic domiciliary visits for the purpose of urging the simple rules of a healthy life, and especially of infant life.

There are 392 premises in the borough to which the Factory and Workshop Act directly applies, and of these 344 are registered workshops. Under the Act, the number of inspections was 343; the number of defects detected was 56, and all but two of these, which related to insufficient sanitary accommodation, were remedied; the number of written notices was 11. Under the heading of "School Inspection," Dr. Horne points out that the most serious defect in schools is vitiated atmosphere, arising chiefly from insufficient ventilation and overcrowding, and also to some extent from personal uncleanliness and dirty clothing, and cards containing rules with regard to ventilation are now suspended in each class room.

There are 19 common lodging houses, providing accommodation for 544 lodgers, which are frequently inspected; but, "at best, however, the accommodation provided is only of inferior quality." A Sub-Committee has recently been appointed "to consider the question of the common lodging houses in the borough and the bye-laws relating thereto."

The report deals at length with the condition of cowsheds, dairies and milkshops, and also with the question of milk and tuberculosis, respecting which reference is made to the interim report of the Royal Commission on Tuberculosis, and quotations are given from the report. There are 18 cowsheds on the register, providing accommodation for 203 cows, seven cowsheds, which were unsuitable, being relinquished during the year. There are 176 registered milk-sellers in the borough, 47 having been registered during 1907. The report refers pointedly to the uncleanly condition in many instances both of the milkers and the cows, and Dr. Horne urges the desirability of the cowkeepers and milk purveyors co-operating with the Town Council for the purpose of ensuring greater cleanliness, as is being done at Sheffield, and Dr. Horne adds: "quite recently I have seen in three different cow-byres, "milkers in the active pursuit of their craft, whose state of personal "cleanliness might more reasonably have been associated with the "occupation of a scavenger than with that of a milker." There are 29 slaughter-houses on the register and each of them was

inspected at least once a week. Legal proceedings were taken successfully against the occupier of a foul and filthy slaughter-house. The report sets forth the advantages which would be derived from the provision of a public slaughter-house, and Dr. Horne says: "I regret that the question of a public abattoir does "not appear to commend itself to your Council, because the "advantages that would accrue if one was provided are most "important."

Under the Food and Drugs Act 24 samples were analysed, but three samples of milk did not come up to the necessary standard and the vendors were cautioned. Several seizures of unsound food were made during the year and in one case the owner was severely fined. From the Inspector's report it appears that the number of nuisances abated and sanitary improvements effected numbered 4,284, and details are given of the different nuisances dealt with. The Inspector's report also has reference to inspection, legal proceedings, Contagious Diseases (Animals) Act, and Bye-laws.

Attached to the report is that of the Lady Inspector, which indicates that she is doing excellent work.

#### SANITARY REQUIREMENTS.

1. The substitution of water-closet accommodation for insanitary midden-privies.
2. A public abattoir.
3. Improved common lodging-house accommodation.
4. Greater cleanliness in connection with the milk supply.

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## URBAN DISTRICTS.

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### ANNFIELD PLAIN.

T. BENSON, L.R.C.P., Medical Officer of Health.

Area in Acres, 3,489. Estimated Population, 1907, 15,200.

Birth-rate. Death-rate. Zymotic death-rate. Infant morality-rate.

33.8	15.2	1.57	142
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Phthisis death-rate, 0.72.	Respiratory diseases death-rate, 3.15.
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Compared with 1906 the chief variations in the vital statistics are a decrease of 2·7 per 1,000 population in the birth-rate and of 1·3 in the total death-rate. The zymotic infant and phthisis death-rates are also very much lower, but there is a considerable rise in the mortality from acute respiratory diseases. Dr. Benson is of opinion that insurance is not responsible for an increased infant mortality, and also that his Council in distributing leaflets on the feeding and management of infants have done something to dispel ignorance on the subject.

### INFECTIOUS DISEASES.

The notifications numbered 120, a decrease of 25 as compared with 1906, and included 75 cases of scarlet fever, 18 of diphtheria, and 15 of enteric fever. Both the scarlet fever and diphtheria cases were distributed generally over the district, and Dr. Benson states that secondary cases of diphtheria in the same house seldom occur, owing probably to improved methods of disinfection. In three of the cases of enteric fever was the disease traceable to direct infection, but the origin of the others was unaccountable. "There was nothing present in the surroundings "sanitarily to give rise to an outbreak." Measles was prevalent in November and caused four deaths, all among children under five years of age. Whooping cough was coincidentally prevalent and caused seven deaths, all of them also being among children. On account of these diseases the Greencroft Schools were closed, with satisfactory results.

The cases isolated in hospital during the year numbered 39, and Dr. Benson says:—"The hospital has ample accommodation, "and is well equipped, and the inmates are most kindly treated; "moreover, the patients are removed free of expense, yet the "objection to hospital treatment is still almost universal; in many "instances it is equivalent to suggesting the workhouse."

### GENERAL SANITATION.

The water supply was satisfactory. At South Pontop 12 insanitary houses were closed by Magistrates' order, while four

others were closed on account of their dangerous state arising from subsidences. During the year 10 insanitary ashpit privies were reconstructed. The district is reported to be properly drained and sewered, but the sewage disposal works at Kyo and Dilton were unsatisfactory, and action respecting them was taken by the County Council under the Rivers Pollution Prevention Acts in the County Court. The necessary disposal works for South Medomsley have not been provided owing, it appears, to the difficulty of obtaining suitable land. The work of scavenging and removal of refuse is stated to be performed satisfactory by contract "and the places of deposits are not inconveniently near the dwellings." The report states that there are three registered common lodging houses and 30 registered cowsheds in the district, but more detailed information is desirable than is given in this report. The number of new dwellings erected during the year was 75, but houses are still in demand and overcrowding is not uncommon. Under the Factory and Workshop Act 58 inspections were made, but no defects were ascertained. No register of workshops appears to be kept, and there is stated to be no home work carried on in the district.

#### SANITARY REQUIREMENTS.

1. More efficient disposal of the sewage of the Kyo and Dilton districts.
2. Sewage disposal works for South Medomsley.
3. A register of workshops should be kept.
4. The more rapid abolition of the old-fashioned ashpit privies is desirable.

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#### BARNARD CASTLE.

ALFRED H. SEVIER, M.B., Medical Officer of Health.

Area in Acres, 560.      Estimated Population, 1907, 4,665.

Birth-rate.      Death-rate.      Zymotic death-rate.      Infant mortality-rate.

25.0	19.7	1.5	102
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Phthisis death-rate, 2.7.	Respiratory diseases death-rate, 2.7.
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All the chief mortality statistics are higher than in 1906; the total death-rate showing the large increase of 4.5 per 1,000 population. This was in part due to the prevalence of influenza and to the large mortality from phthisis and acute lung diseases. Heart disease was the cause of 20 deaths, the majority being among persons aged 65 years or more.

### INFECTIOUS DISEASES.

Only 10 cases were notified, of which six were diphtheria, three erysipelas, and one scarlet fever. The cases of diphtheria were "practically" confined to the North Eastern County School, into which it was imported from another district by one of the boys. The case of scarlet fever was also introduced by a visitor. Measles and whooping cough were epidemic during June and December and caused respectively two and one deaths. The other zymotic deaths were three from diarrhoeal diseases and one from croup. No case of infectious disease was treated in the isolation hospital. One lot of bedding was destroyed and two schools were disinfected.

### GENERAL SANITATION.

The report states that the water supply was satisfactory both as regards quality and quantity. Several sections of faulty pipes were re-laid, and owing to the wet weather the water was more abundant. Owing to sanitary and structural defects seven houses were condemned during the year, but 26 new houses were erected of which 20 were occupied. A new system of sewerage for the railway station was commenced and the sewage farm is reported to have worked satisfactorily. As to sanitary inspection Dr. Sevier reports as follows:—"The sanitary condition of the town "continues to improve under the supervision of your sanitary "inspector. Together with him I had occasion to visit several "yards and houses and recommend improvements in various "sanitary arrangements, particularly where improper and insuffi- "cient privies or water closets were found to exist." During the year 87 nuisances were dealt with, and all but 10 of them were

remedied. The report states that no special action was called for under the Workshops and Factory Act, but that the majority of the workshops and outworkers' premises were regularly inspected. No reference is made in the report to the condition of dairies, cowsheds, slaughter houses, common lodging houses, and on many other matters of sanitary import more detailed information is desirable.

### SANITARY REQUIREMENTS.

None mentioned.

## BENFIELDSIDE.

W.M. ALLEN, M.D., Medical Officer of Health.

Area in Acres, 1,525. Estimated Population, 1907, 7,650.

Birth-rate.	Death-rate.	Zymotic Death-rate.	Infant Mortality-rate.
30.3	19.0	1.43	155

Phthisis death-rate, 1.56. Respiratory diseases death-rate, 2.87.

The estimated population is the same as in the previous year.

The total death-rate was 3.5 per thousand population higher than in 1906, while the phthisis and acute lung diseases death-rates also considerably increased. On the other hand, there was a considerable decline in the zymotic and infant death rates. Heart disease was exceptionally fatal, the result, in Dr. Allen's opinion, of rheumatic affections, for which the bleak district is responsible. As regards the infant mortality, the opinion is expressed in the report that at least one-half of the 24 deaths from diarrhoea, marasmus, convulsions, and lung affections might have been avoided but for improper feeding or exposure to cold.

### INFECTIOUS DISEASES.

The notified cases numbered only 24, or less than half those reported in the previous year (51). The most prevalent disease was erysipelas (11 cases), the other cases being six of scarlet fever, four of diphtheria, and three of enteric fever. No information is given in the report as to the distribution or cause of any of the cases. There were three deaths from measles, one from

whooping cough, and six from diarrhoea, the last-named disease being less fatal than usual owing to the summer being cold and sunless. Six cases were removed to the isolation hospital, and seven houses and seven lots of infected bedding were disinfected.

### GENERAL SANITATION.

Satisfactory reference is made to the water supply, slaughter-houses, cowsheds, and dairies (with one exception), and lodging-houses. The information given on these matters is very meagre. Twenty-two new houses were built and occupied during the year and 54 insanitary houses were dealt with, 46 of which were made habitable, four were permanently closed, and the remainder are receiving attention. During the year new sanitary nine-inch pipes were laid down in place of 260 yards of old defective drains. "The sewage disposal works, not being at times adequate, are about "to be enlarged." One of the greatest improvements effected in the district has been the conversion of 49 middens into ash-closets, whilst ten privies were altered into water-closets. Scavenging and removal of refuse are now undertaken by the District Council and the middens and closets are being emptied more systematically, "but there is great difficulty about tipping places for refuse. "It is difficult to avoid bad smells, but foul refuse is covered over "with soil wherever possible." As regards nuisances, 50 formal and 90 written informal notices were served for their abatement "and the matters complained of were put right." As to the Factory and Workshop Act, the following remarks are made— "There are three factories and 33 work-places in the district, also "one bakehouse; but there are no home-workers. The factories "and work-places have all been kept in good sanitary condition."

### SANITARY REQUIREMENTS.

The following are mentioned:—

1. The acquisition of new tipping grounds away from the neighbourhood of dwellings, or the treatment of refuse by a destructor, if these are unattainable.
2. The cementing of the bed of Baxton Burn, with the

object of doing away with the stagnant pools which are present in summer-time. In addition :—

3. The systematic abolition of insanitary midden-privies.
4. An improvement in the sewage disposal works, are also urgently needed.

### BISHOP AUCKLAND.

T. A. McCULLAGH, M.R.C.S., Medical Officer of Health.

Area in Acres, 691.	Estimated Population, 1907, 12,969.		
Birth-rate.	Death-rate.	Zymotic death-rate.	Infant mortality-rate.
30·8	19·1	2·61	172
Phthisis death-rate, 1·23.		Respiratory diseases death-rate, 3·15.	

There was a slight decrease in the birth-rate, but all the mortality statistics are unsatisfactory and compare unfavourably with the county rates. The heavy mortality from measles was largely responsible for the high zymotic death-rate, and Dr. McCullagh makes the following remarks on the high rate of infant mortality :—“Our infant mortality-rate for 1907 was 172, “which is above our average for the last ten years, and is above “the average for the County. This has been caused by the large “number of deaths from bronchitis (13), premature birth (9), “measles (4), and whooping cough (3). It has not been due to any “new or specially insanitary conditions of the district. Year after “year the main causes of high infant mortality in this district are “improper feeding, want of domestic care and cleanliness, and “insanitary privies, ashpits and yards, and the remedies are those “which naturally suggest themselves—instruction in the homes “to mothers, and in the schools to children, in the hygiene of “domestic life; and continued watchfulness on the part of the “authorities to keep the surroundings of dwelling-houses as “healthy as possible.”

### INFECTIOUS DISEASES.

The number of notifications was much below the average, only 48 being received, as compared with 82 in 1906 and 132 in

1905. The most prevalent diseases were diphtheria (16), erysipelas (14), scarlet fever (8), and enteric and continued fevers (9). Only one of the diphtheria cases proved fatal, but no reference is made as to the distribution or causes of the cases. The cases of typhoid fever were the fewest of which Dr. McCullagh has any record, the small number being most likely the result of climatic conditions being unfavourable to the typhoid bacillus. For a similar reason the mortality from diarrhœa was also below the average. Twelve cases were treated in the isolation hospital, and Dr. McCullagh expresses a doubt as to the utility of treating scarlet fever patients in the hospital, and he says: "In the event of an epidemic, the "number of beds at the hospital would be quite inadequate for "the isolation of cases." A horse ambulance for the removal of patients to the hospital has been provided. Measles was fatally epidemic during the year, causing 19 deaths, and necessitating the closure of the elementary schools during October. Most of the fatal cases were complicated with bronchitis or pneumonia, and Dr. McCullagh says: "On the occurrence of another epidemic, I "think it would be well to issue notices calling the attention of "parents to the seriousness of measles, and to the desirability of "keeping those affected strictly to bed. There is a tendency to "look on measles as a harmless, necessary event in the life of a "child, and to ignore the heavy mortality which accompanies "many epidemics." There were four deaths from whooping cough and nine from diarrhœa, and it is interesting to record that of the 34 deaths from the seven principal zymotic diseases, 32 were caused by measles, whooping cough and diarrhœa; and the much more dreaded diseases of smallpox, scarlet fever, diphtheria, and typhoid fever only caused two deaths. The disinfection of all infected houses and surroundings should be practised as far as possible.

#### GENERAL SANITATION.

The water supply is stated to have been satisfactory both in quality and quantity. "A third filter bed has been constructed, and "there is now ample provision for continuous filtration, while the

“beds are cleaned in rotation.” A large number of streets have been paved, drained, flagged, etc., under the Private Street Works Act, 1892, during the year, and a list of the streets so improved is given in the report. Several other streets will shortly be proceeded with. The importance of this work is emphasized, especially where there are privies or privy-ashpits to empty. Dr. McCullagh again draws attention to the objectionable practice of many householders throwing kitchen and other refuse into the streets and “it becomes very offensive in warm and wet weather “and is dangerous to public health. A few prosecutions will “probably have some effect in stopping the nuisance.” Sixty-three new houses were erected and occupied during the year, while under the Housing of the Working Classes Act, 1890, one dwelling-house was made habitable after formal notice. Considerable improvements were made to eight houses at Blue Row. The cowsheds, the milk supply, and the slaughter-houses are reported on satisfactorily, but more detailed information is desirable, while information should be given in the report as to drainage, sewerage, and common lodging-houses. Under the Factory and Workshop Act, 50 inspections were made and two defects were found and remedied. Thirteen new workshops were added to the register. The Inspector reports that 34 formal notices as well as 36 written informal notices were served in respect of nuisances, of which 28 were abated, and in which are included the removal of 41 privies and 17 ashpits, the laying of 31 yard pavements, and the provision of 16 new gully traps. The Inspector also states two lots of infectious bedding and 23 houses were disinfected after infectious disease.

#### SANITARY REQUIREMENTS.

1. Systematic action for the abolition of insanitary ashpit-privies.
2. The prevention of the practice of householders throwing offensive refuse into the streets.

## BLAYDON.

H. MORRISON, M.B., B.S., B.Hy., Medical Officer of Health.

Area in Acres, 9,323.	Estimated Population, 1907, 25,000.		
Birth-rate.	Death-rate.	Zymotic death-rate.	Infant mortality-rate.
36.7	14.6	2.56	139

Phthisis death-rate, 0.80.      Respiratory diseases death-rate, 2.28.

The estimated population is given as 2,300 more than in 1906.

With the exception of the zymotic death-rate which was somewhat high, owing to the exceptional mortality from measles and diarrhœa, the chief mortality statistics are satisfactory, the decline in the total death-rate being as much as 3.3 per thousand population. The phthisis death-rate was low, and Dr. Morrison states that it is a very good gauge of improved hygienic conditions.

The inclement weather and long prevailing easterly winds are blamed for the increase in the death-rate from acute lung diseases.

## INFECTIOUS DISEASES.

The notifiable diseases showed a marked decline in prevalence, the number of cases falling from 328 in 1905 and 225 in 1906 to 116. The notifications of scarlet fever fell from 114 to 61, and diphtheria cases declined from 60 to 25. The latter disease was most prevalent in Chopwell (9 cases), and an enquiry was made into its causes by the County Medical Officer and local officials. The report states that the officials of the Company responsible for the village have expressed their willingness to carry out any measure which may tend to improve the conditions under which their tenants live. Eight of the cases of diphtheria ended fatally, the case-mortality being 32 per cent. The enteric fever cases declined from 24 to 18, and were confined to the Blaydon (10) and Winlaton (8) Wards, "and defective drains "seem to have been the most common cause." Measles caused 25 deaths, all but two of them being among children under 5 years of age. A large number of the elementary schools were closed in

consequence, and Dr. Morrison expresses the opinion that school closure for measles is advantageous. There were two deaths from whooping cough and 25 from diarrhoea, all the latter being among infants under one year of age. The number of cases treated in the hospital was 57, and 153 lots of bedding, clothing, etc., were disinfected.

### GENERAL SANITATION.

The following remarks are made in the report with reference to the water supply :—“ Owing to colliery workings, etc., no water “ is now derived from Chopwell East or West Springs. No fresh “ sources of derivation have been made during 1907, but steps are “ being taken to promote a Bill in order to hand over the Council’s “ responsibility to local incorporated Water Companies.”

Under the Housing of the Working Classes Act 48 houses were dealt with, of which eight were closed, six made habitable, and the remainder are receiving attention. During the year 29 old privy-middens were abolished and 21 water-closets and 33 new ash-closets erected. The scavenging of the district has been fairly done, except at Winlaton, where the contractor has been inattentive and given a good deal of trouble. On this subject Dr. Morrison remarks—“ At almost everyone of your monthly “ meetings, however, instances of the difficulty of keeping the “ ashpit and privy scavenging up to mark have arisen, and I think “ the time has come when it would be advisable to consider “ whether we cannot fall into line with other districts which find “ that is better to insist on water-closets being put into all new “ buildings and so do away altogether with most of the scaveng- “ ing. The initial cost may be somewhat greater, but the improve- “ ment in the public health would assuredly outweigh the expense “ and the small annual water rate incurred.” The report states that 19 filthy houses have been cleansed and 194 repaired, that 22 cases of over-crowding were dealt with; while a short statement of other nuisances abated during the year is given. The dairies and milkshops, bake-houses, and slaughter-houses are reported to have been kept satisfactorily, but more detailed information as to these places is desirable. There are only two

lodging-houses in the district and five notices were served upon the keepers, owing to want of cleanliness and ventilation, but with what result it is not stated. No reference is made in the report to the drainage and sewerage of the district.

Under the Factory and Workshop Act 16 inspections of factories and 32 of work-places were made and six defects were detected, four of which were subsequently remedied. No lists of out-workers were received during the year. The number of workshops on the register is 64.

### SANITARY REQUIREMENTS.

1. An improved water supply for part of the district.
2. Improved scavenging, especially at Winlaton.

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## BRANDON AND BYSHOTTLES.

HENRY SMITH, M.D., Medical Officer of Health.

Area in Acres, 6,669. Estimated Population, 1907, 17,563.

Birth-rate.	Death-rate.	Zymotic death-rate.	Infant mortality-rate.
35.1	14.6	1.8	140

Phthisis death-rate, 1.19. Respiratory diseases death-rate, 2.27.

All the chief mortality statistics compare very favourably with those for 1906, the decline in the total death-rate, zymotic and infant death-rates being very marked. There was also a satisfactory increase in the birth-rate from 32.9 in 1906.

### INFECTIOUS DISEASES.

Only 36 cases were notified, which is by far the smallest number reported during any of the last 16 years. Nearly one-half of the cases were of erysipelas, and it is satisfactory to note that the cases of diphtheria declined from 27 in 1906 to nine, the enteric fever cases from 48 to seven, and the scarlet fever cases from 40 to four. No reference is made in the report to the cause of any of the cases, but it is stated that the enteric fever cases occurred principally in the East Ward, while the notifications of diphtheria

were from all the wards except the North. Measles caused six deaths, four of them in the East Ward, while eight of the 13 deaths from whooping cough occurred in the Centre Ward. In September, it was thought advisable to close the Infants' Department of the Waterhouses Council School for three weeks owing to the prevalence of measles. Diarrhœa was fatal in 10 instances, the deaths occurring in the East and Centre Wards. The only cases treated in the isolation hospital were five of enteric fever and the hospital was empty during the greater part of the year. All infected houses were visited and 20 of them were disinfected. On July 1st the District Council resolved to temporarily include Cerebro-Spinal Meningitis in the list of infectious diseases required to be notified under the Infectious Diseases Notification Act, but no case occurred. A case of anthrax occurred on a farm in the district during May and prompt precautions were taken by the county police.

### GENERAL SANITATION.

The water supply is reported to be generally satisfactory, but "a few isolated places and farm-houses draw their supply from "springs." A special inspection of the district, having regard especially to housing accommodation, was made by the Medical Officer of Health and Inspector, and was the subject of a special report published in December, and Dr. Smith says:—"It will be "seen by the report that the housing accommodation is altogether "inadequate." During the year 77 new ash-closets were erected in the Langley Moor district, 60 in the Brandon district, and 42 at New Brancepeth, and Dr. Smith expresses the hope that all the objectionable old midden-privies will be replaced by more sanitary conveniences. The improvements in the drainage and paving in Whitwell Terrace, Langley Moor, were completed during the year and it is proposed shortly to construct 700 yards of new sewers at Brandon Colliery, and to commence the construction of the Browney Sewage Disposal Works. A new secondary filter has been constructed at the Littleburn Disposal Works and is, according to the report, giving very good results. As to the open

channels which are used for drains in parts of the district, Dr. Smith says "it is to be hoped your Council will continue with the "work of laying their sewers throughout the district until all the "existing channels are abolished." Eighty-eight houses were erected during 1907 and 76 of them were occupied. The report states that cases of overcrowding are being dealt with as expeditiously as possible. Scavenging, which is performed by contract, is reported to have been fairly well performed except in the Waterhouses district, where the works have been very indifferently executed and in consequence considerable inconvenience has been caused. The refuse is deposited on land and on the Council's tips. The report gives details of a large number of nuisances which have been abated. The improvements effected include the repairing, or entirely paving with cement concrete, of 70 house-yards.

The cowsheds and dairies, which number 34 and accommodate 138 cows, were all inspected and the majority of them were clean and newly whitewashed. In nine cases the flooring was bad, and the work of concreting them is now in progress. In two or three cases the drainage was found to be faulty. Dr. Smith says:— "I am still of opinion that all milk cows should be periodically examined by a veterinary surgeon, as undoubtedly some of them suffer from tuberculosis, and are a grave source of danger to the public health, particularly to children who consume a quantity of milk."

Under the Factory and Workshop Act 39 inspections were made, and two defects, which were the subject of written notices, were remedied. The number of workshops on the register at the end of the year was 28. No outwork is, so far as is known, carried on in the district. No overcrowding was met with in any of the workshops. "There are no common lodging houses, and no tenemented property in the district, and no offensive trades are carried on in it."

Dr. Smith states that the report on the sanitary administration and sanitary condition of the district by Dr. Fletcher, one of the Medical Inspectors of the Local Government Board, who inspected

the district in 1906, was received in June. "The report has "received the full consideration of your Council and your officers, "and the recommendations therein contained are receiving "attention. An answer has been sent to the Board."

### SANITARY REQUIREMENTS.

1. Increased housing accommodation.
2. The substitution of proper drains and sewers for open channels.
3. The abolition of all insanitary ashpit-privies.
4. Better scavenging arrangements for Waterhouses district.

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### CONSETT.

A. D. M. MACINTYRE, M.B., Medical Officer of Health.

Area in Acres, 1,005.      Estimated Population, 1907, 10,783.

Birth-rate.      Death-rate.      Zymotic death-rate.      Infant mortality-rate.

31.3	16.2	0.92	139
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Phthisis death-rate, 0.64.      Respiratory diseases death-rate, 3.15.

There was an increase in the birth-rate, while there is a satisfactory improvement in all the chief mortality statistics, owing largely to the small number of deaths from diarrhoeal diseases as a result of a cold damp summer. In the different quarters, the total death-rate varied from 9.2 in the third to 21.1 in the first quarter. Dr. Macintyre analyses the deaths among infants, 17 of which due to premature birth and congenital defects he ascribes to prenatal causes, while as regards the 13 deaths from pneumonia and bronchitis, he points out the necessity, on account of the altitude and exposed situation of the district, of protecting young children from chills by the use of warm clothing. He states that the reduction in the infant mortality-rate may be entirely ascribed to the diminution in the diarrhoea mortality. Favourable comment is made in the report on the

experiment which has been made of utilizing the joint small-pox hospital as a consumptive sanatorium, and referring to the diminished death-rate from phthisis. Dr. Macintyre says "there "is no doubt that the onward movement in the improvement of "the housing of the working classes, amongst whom the disease "is most prevalent, will in time effect a much greater reduction."

### INFECTIOUS DISEASES.

There were 31 notifications received, a decrease of seven as compared with the previous year. The most prevalent diseases were erysipelas (12), scarlet fever (10), and diphtheria (7). Three of the cases of diphtheria ended fatally. In two instances they were connected with scarlet fever, while faulty sinks were associated with two others, but no suspicion attached to any of the schools as a source of infection. The cases of scarlet fever were all of a mild type. It is especially satisfactory that only one case of enteric fever occurred during the year, especially as there was not a single case during 1906. No insanitary conditions were associated with the case and it is probable that the patient contracted the disease outside the district. Both measles and whooping cough were prevalent during the latter half of the year and each disease was responsible for three deaths. Three cases of infectious disease appear to have been removed to the isolation hospital and the report states that sufficient isolation and disinfection in all cases of infectious disease were provided, while all the schools were regularly disinfected. Dr. Macintyre expresses the opinion that more advantage should be taken of the facilities afforded to medical practitioners by the County Council for the free bacteriological examination in doubtful cases of diphtheria, enteric fever, and phthisis.

### GENERAL SANITATION.

The water supply was generally abundant, though for a short time in the autumn it was slightly turbid. The report states that the Hisehope Reservoir is now completed and in use, affording additional storage and also supplying the Smiddy Shaw Reservoir,

"which, on account of the ever-increasing calls upon its resources, "has seldom in recent years had the opportunity of storing the "full amount of which it is capable."

During 1907, 45 new houses were occupied and plans were passed for 35 others. The new houses are stated to all have been substantially built, and many of them are of convenient size for the working classes. The number of persons per house in the Consett district averages about 4·6. In November, Dr. Macintyre submitted a special report dealing with 173 cottages known as the "Company Rows," and the Consett Iron Company, to whom they belong, have expressed their intention to improve them in sections. Dr. Macintyre admits that considerable time must be allowed before they are all finally improved, "but your Council should make it "clear that the work must be proceeded with at once." Copies of Dr. Macintyre's report were sent both to the Local Government Board and to the County Council.

Statutory notice under the Housing of the Working Classes Act, 1890, was served respecting seven cottages in John Street, and closing orders will be applied for unless the required improvements are made; and it is also intended to deal with a number of back-to-back houses in John and Pitt Streets, which were the subject of a special report by Dr. Macintyre in November last. The four common lodging-houses, which provide accommodation for 140 persons, were frequently inspected and found to be well kept. The work of scavenging and removal of house refuse was performed by the District Council's own staff in a most satisfactory manner. The absence of typhoid fever from the district is ascribed to the efficiency of this work.

The main sewage disposal works are reported to have worked satisfactorily and the new disposal beds at Crookhall are almost completed. Arrangements for the disposal of the sewage from several houses near Templetown are being made. The report comments favourably on the condition of the dairies, cowsheds, milkshops and slaughter-houses, but more information might, with advantage, be given in the report as to the condition of these places. The report states that several streets have been laid with

tar macadam as an experiment and with satisfactory results. For the abatement of nuisances, 112 informal written notices and one formal notice were served, and the report states that compliance was made with all of them. No details are given of the inspections made under the Factory and Workshop Act, but it is stated that there were 74 workshops on the register at the end of the year.

### SANITARY REQUIREMENTS.

The closing or re-construction of the insanitary houses at Company's Rows, Pitt Street, and John Street.

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### CROOK.

A. MACKAY, M.D., Medical Officer of Health.

Area in Acres, 4,056.      Estimated Population, 1907, 11,800.

Birth-rate.	Death-rate.	Zymotic death-rate.	Infant mortality-rate.
32.2	17.5	2.7	165

Phthisis death-rate, 0.76.      Respiratory diseases death-rate, 3.9.

With the exception of the phthisis death-rate, all the chief mortality statistics compare unfavourably with those for 1906. The marked diminution in the phthisis mortality is gratifying. Dr. Mackay recommends that all rooms should be disinfected in which deaths from phthisis have taken place, and he repeats the advice given in last year's report that his Council should take a bed in the Stanhope Sanatorium, so that patients from the district might be treated in that institution. The report deals at some length with the infant mortality which Dr. Mackay states is a discredit to the district, and the following extracts from the report are of interest:—"It is proposed to appoint for the "County three lady health visitors, but it does not seem to me "that much good can result from the proposal, for why should "the advice of a stranger be more effective than that of the "ordinary medical attendants. From long experience I am of "opinion that the solution of the question will be found in the "provision of roomy, sanitary dwellings, a pure milk supply, and

“in efforts such as that made by the Mayor of Huddersfield.” . . .  
 “Unfortunately there are in the Urban District a considerable  
 “number of two-roomed back-to-back houses occupied by families  
 “varying from two or three to eight or nine persons, where it is  
 “impossible to rear healthy children no matter how careful and  
 “solicitous parents may be. The kitchen has to be used as a  
 “bedroom and the sick have to be nursed there, as the mother  
 “has household duties to perform, which must be very trying to  
 “the sufferers, owing to noise and draughts as well as prejudicial  
 “to recovery, and in the case of an infectious illness no chance  
 “is given for the others to escape. In the yard common to two  
 “houses or more, there are often to be found one or two open  
 “middens.”

### INFECTIOUS DISEASES.

The notifications received numbered only 66, as against 72 and 156 in the two preceding years. Scarlet fever was the most prevalent disease (40 cases), the other notifications including nine of diphtheria and three of enteric fever. As regards scarlet fever, Dr. Mackay says “school infection seemed to be the cause “in most cases, and I don’t think this fever is likely to be “stamped out until there is immediate removal of all cases to “hospital with disinfection and isolation of all contacts.” Only one of the cases of diphtheria proved fatal, most of them being of a mild type, several of the patients being ill only a day or two. Two of the cases of enteric fever were associated with insanitary conditions. Measles was epidemic in the summer and autumn causing seven deaths, while whooping cough was prevalent during the year causing 12 deaths, but there were only 11 deaths from diarrhoea and enteritis, as compared with 21 in 1906. This large decrease was due to the climatic conditions being unfavourable to the development of the specific organisms. During the year 27 patients were isolated in the hospital at Helmington Row, which “is kept in excellent order and having now a good reputation, the aversion of parents to having their children removed is “being overcome,” and Dr. Mackay points out that the great

majority of workmen's houses are totally unsuited for the treatment of infectious diseases.

### GENERAL SANITATION.

The water supply was of excellent quality and continuous and ample all the year. As regards the housing conditions, the report states that Messrs. Pease & Partners have nearly completed the reconstruction of 50 houses, which now consist of four good rooms with fireplaces, while the same firm are erecting 33 new houses of good construction. At Woodfield Rows, improvements are necessary at some of the houses, especially in ventilation and the bedroom accommodation but no repairs have been made, the owners declined to spend money on structural alterations on the ground that the colliery would be worked out in a year or two. The report also contains details of improvements to individual dwelling-houses in different parts of the district. One house in West Road is closed and some insanitary houses known as Roddymoor Huts are to be dealt with shortly. Improvements in conveniences have been made at Victoria Street, Arthur Street, and West Road, but apparently the work of abolishing the ashpit-privies is not proceeding as rapidly as is desirable in the interests of public health, for Dr. Mackay says:—"In former reports I "have said that measures should be taken to secure prompt attention to notices served on the owners of insanitary dwellings or "conveniences, but although I understand, a large number of "notices were served early in the year, no pressure has been used "and the result is that comparatively little has been done." The report gives details of improvements in drainage at West Road and Roddymoor and in connection with individual houses, while at East Terrace, Grahamsley, channelling and paving have been provided. The work of scavenging and refuse removal is let by contract, though where there are no back roads the conveniences are emptied and disinfected once a week by employees of the District Council. In some cases the contractors were careless and irregular, and Dr. Mackay states that the work especially during the summer months requires constant supervision. Owing

to the resignation of the Inspector of Nuisances in October, no accurate information is given in the report as to the houses disinfected, or as to the number of nuisances dealt with, but 53 formal notices were served for the abatement of nuisances, though with what result is not known. No reference is made in the report to common lodging-houses or slaughter-houses, but the cowsheds are stated to have been inspected as opportunity presented itself and were for the most part, in good condition, but several defects were noted and are to receive early attention. No outbreak of illness was attributable to milk supply. Under the Factory and Workshop Act, 33 inspections are reported to have been made but no defects were found. At the end of the year 18 workshops were on the register. No information is given as to homework.

### SANITARY REQUIREMENTS.

The following are mentioned:—

1. The making of the following streets:—Croft Street, Calvert Street, Queen Street, Back Wilson Street, Back High Hope Street, Back Dawson Street, Cross Street to Coronation Street, Cross Street to Lister Terrace.
2. The remaining segment sewers to be taken up.
3. Midden-privies in Crook especially to be abolished.
4. Channelling and paving at Gladstone Terrace, Sunniside.
5. Close attention to the emptying and disinfecting of ashpits.
6. Close supervision over meat and milk supplies.

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### FELLING.

W.M. E. PEACOCK, M.D., B.Hy., Medical Officer of Health.

Area in Acres, 2,684.	Estimated Population, 1907, 26,300.		
Birth-rate.	Death-rate.	Zymotic death-rate.	Infant mortality-rate.
33.0	16.6	2.4	125

Phthisis death-rate, 1.06.      Respiratory diseases death-rate, 3.08.

The chief vital statistics are satisfactory though on account of the large mortality from measles and whooping cough the

zymotic death-rate is exactly double the rate for 1906. The mortality from acute lung diseases also shows a considerable increase owing probably, in part at any rate, to the complications following measles and whooping cough. Dr. Peacock refers with gratification to the marked decline in the infant mortality-rate during the last two years, the average rate for the 10 years, 1897-1906, being 181. He is of opinion that the Notification of Births Act will assist materially in reducing the infant mortality, but owing to the expense involved in exercising the necessary supervision over the births registered, he is afraid many local authorities will not adopt it. Figures are given in the report showing how much lower is the mortality among breast-fed infants than those fed by hand. The subject of tuberculosis and its relationship to milk supply is dealt with at some length in the report, and Dr. Peacock is in favour of the compulsory notification of phthisis and more stringent precautions to ensure purity of the milk supply. As far as possible rooms in which deaths of phthisis occur are disinfected but opposition is often met with from the householders when disinfection is offered and "it is difficult to persuade the "public that tuberculosis is infectious and they are unable to grasp "that fact owing to a long incubating period occurring." In the different districts the total death-rate varied from 14.9 per 1,000 population in Heworth to 16.1 in Felling, and 18.2 in Windy Nook.

### INFECTIOUS DISEASES.

The notifications were 151, which is the smallest number received since the Notification Act came into force and is less than one-half of the average notified annually during the 10 years —1897-1906. No case of smallpox occurred during the year. Scarlet fever was the most prevalent disease, 99 cases being reported, 69 of which occurred during the last four months of the year, when an out-break occurred "in a rather crowded "neighbourhood where the parents were unable to carry out even "the slightest attempt at isolation as the houses were mostly of "the one-roomed type." Having regard to the above remarks, it is an extraordinary thing that none of the cases appear to have

been removed to the isolation hospital which has been provided for the district. There were nine deaths from scarlet fever and the case-mortality was very high. Diphtheria was responsible for 25 cases, two of which proved fatal. Dr. Peacock points out that the diphtheria patients are frequently highly infectious for several weeks after symptoms of the disease have passed away, and he says "the medical practitioners of the district are entitled "to send swabs from cases of suspected diphtheria to the laboratory "of the Durham University, and to have them examined and "reported upon free of cost, either to the patients or themselves, "the County Council having come to an arrangement with the "authorities at the laboratory, and I trust that they will make use "of these facilities, not only for diagnosis, but also in order to "ascertain when it will be safe for the patient to be released from "quarantine." Arrangements are being made by the District Council for stocking a supply of diphtheria antitoxin for the treatment of the poorer inhabitants of the district who may be attacked by the disease. There were only nine cases of enteric fever, three of which proved fatal, and from March to the end of the year only one case was notified. Measles and whooping cough were present in epidemic form during the year and caused 40 deaths, as compared with four in 1906. On the other hand, owing probably to the cold summer, there was only 10 deaths from diarrhoea as compared with 15 in the previous year. The disease known as Cerebro-Spinal Meningitis was made compulsorily notifiable in the district for a period of six months, but no case was reported, while owing to the prevalence of typhus fever in the adjoining borough of Gateshead public notices were issued warning the inhabitants and urging cleanliness and ventilation and the avoidance of visiting sick friends until a definite diagnosis had been made. The usual precautions against the spread of infectious disease were taken but it is to be regretted that no use was made of the isolation hospital.

#### GENERAL SANITATION.

Satisfactory reference is made as to the quality and quantity

of the water supply, which is from the Newcastle and Gateshead Water Company's reservoirs. Under the Housing of the Working Classes Act a large number of insanitary houses were inspected and 43 dwellings were dwelt with under this Act, ten of which were made habitable and ten closed, the others being under notice at the end of the year. The report deals at some length with the housing question and shows that the total infant death-rates in different districts are affected by the housing conditions and over-crowding. During the year 69 ash-closets and one water-closet were erected in place of 49 midden-privies, while six ash-closets were abolished in favour of water-closets. During the past six years as many as 567 midden-privies have been abolished and 1,007 ash-closets or water-closets provided in their place. This important improvement has, without doubt, very beneficially affected the health of the district as is shown by the lowered death-rates.

The cowsheds and dairies were periodically inspected and their condition was found to be satisfactory; although a marked improvement is noticeable as compared with their condition a few years ago, "still there is room for much improvement, and "that can only be effected by giving increased powers to the "Council to frame more stringent bye-laws." Some interesting information is given in the report respecting milk as a vehicle in the transmission of disease, and especially of tuberculosis. Only seven of the twenty slaughter-houses in the district are registered, but Dr. Peacock expresses the hope that in the interests of the public health, a public abattoir will be erected in the district. The scavenging of the district appears to have been performed very satisfactorily, and the new refuse destructor to have worked very efficiently. There are ten factories and 56 workshops and work-places on the register, and these have been visited at intervals, but no defects were found, and no notices served under the Factory and Workshop Act. One address of an outworker was received. Dr. Peacock points out that with the limited sanitary staff in only a few cases is supervision of factories and workshops possible.

## SANITARY REQUIREMENTS.

1. The provision of a public slaughter-house deserved consideration.
2. The use of the isolation hospital for the treatment of cases where isolation at home is impracticable is most desirable.

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### HEBBURN.

A. M. G. WALKER, L.R.C.P., Medical Officer of Health.

Area in Acres, 1,241.	Estimated Population, 1907, 23,577.		
Birth-rate.	Death-rate.	Zymotic death-rate.	Infant mortality-rate.
35.3	15.9	1.68	129

Phthisis death-rate, 0.97.      Respiratory diseases death-rate, 3.6.

The chief vital statistics are fairly satisfactory and compare favourably with those of the previous year. The death-rate from acute respiratory diseases was, however, high. The highest total death-rates occurred in the first and last quarters, and in the West Ward, while the lowest rate was in the Victoria Ward. The report deals at some length with the prevention of consumption and other tubercular diseases, and it is pointed out that although payment is made for the voluntary notification of phthisis there were 23 deaths although only 26 cases were notified. The voluntary notification of phthisis has now been in operation in the district since March, 1903, but though the District Council were willing to make the notification of the disease compulsory, the Local Government Board declined to give their sanction, though Dr. Walker thinks it desirable. The District Council now subscribe £75 annually for a bed at the Stanhope Consumptive Sanatorium, and Dr. Walker states that the results which have been obtained from treatment there have been satisfactory. He urges the importance of attention to local sanitation as well, if tuberculosis is to be prevented. Nearly 13 per cent. of the total deaths occurring in the district during 1907 were caused by tuberculosis.

## INFECTIOUS DISEASES.

The notifications numbered 163, inclusive of 26 cases of phthisis, while in the previous year 239 cases were notified. Ninety-four cases, or 57.6 per cent. of the total number notified, were removed to the isolation hospital. Scarlet fever was the most prevalent disease, 84 cases being reported, all but eight of which received hospital treatment. Only one of the cases proved fatal. Of the 13 cases of diphtheria, 10 were removed to the hospital. As to the cause of the cases, Dr. Walker says "I found "nothing except defective sanitary surroundings, the milk and "water supply being good in every case." There were also 13 cases of enteric fever, eight of which received hospital treatment, and four of them ended fatally. Dr. Walker says:—"As to the "cause of this disease I invariably found insanitary surroundings, "defective drains, etc., causes readily removable by thorough and "systematic inspection and a free use of disinfectants." There were 18 deaths from measles, the disease being epidemic throughout the district, and diarrhoea was fatal in nine instances, but there were only two deaths from whooping cough. In regard to the prevention of diarrhoea and the feeding and management of children, leaflets were distributed by the registrar of births to every mother registering a birth, and a copy of the leaflet is printed in the report. The cases of diarrhoea are also mentioned, and Dr. Walker expresses the opinion that the adoption of the Notification of Births Act, and the appointment of an additional Sanitary Inspector, would effect an improvement. Owing to the prevalence of measles, several schools were closed during February and March and they were then thoroughly disinfected and cleaned. Owing to the prevalence of typhus fever in Gateshead, posters were distributed in the district setting forth the precautions to be observed in connection with the disease. No case occurred in the district. There was only one death from puerperal fever and a midwife had primarily been in attendance and Dr. Walker expresses the opinion that good results have followed the administration of the Midwives Act. The hospital is well staffed and provided with every necessity during the year. The actual cost

per patient amounted to £11 14s. 4d. The permanent employment of a man at the hospital is again urged in the report.

### GENERAL SANITATION.

The water supply from the Sunderland and South Shields Water Company was satisfactory. During the year, 36 dwellings were built and occupied. The report deals at some length with the condition of the housing accommodation in the colliery district and it appears that an improvement in sewerage and drainage have been made, that some of the worst cases of overcrowding have been remedied, and that the Colliery Company have commenced with the work of converting the foul ashpit-privies into ashclosets. Dr. Walker points out that in many instances the yards do not fall towards the gullies, that objectionable open channels and a few untrapped gullies still exist, and that there is still much to be done before the Colliery district, or East Ward can be said to be in a reasonably sanitary condition, and in his opinion it would have certainly been more creditable both to the Council and to the Colliery Company if certain houses in the Square and High Lane Row East had been pulled down and rebuilt. Steps are being taken by the District Council for the conversion within twelve months of all objectionable ashpit-privies into ashclosets throughout the district, and during the year 54 ashpit-privies were abolished. There were still 227 ashpit-privies in the district, 199 of which were at the Colliery. Steps are being taken to make many of the back streets in the Quay, New Town, and Colliery districts with tar macadam and this should result in a great improvement. Dr. Walker again urges the appointment of an additional Sanitary Inspector and in support of that recommendation he draws attention to the bad condition of the many insanitary conditions which exist. He is strongly in favour of the Notification of Births Act and the appointment of a woman who will combine the duties of a Health Visitor and Sanitary Inspector. Under the Housing of the Working Classes Act proceedings were successfully taken with regard to the closing of 11 dwellings and the magistrates in

granting the order inflicted a fine upon the owner. The scavenging of the district is reported to have been satisfactorily performed, but there appear to have been some difficulties with the disposal of the refuse and Dr. Walker says "the early completion of the "Quay and the purchasing of hoppers or the erection of a refuse "destructor is what is urgently needed." The only common lodging-house in the district has been well-kept and the opinion is expressed in the report that the provision of additional common lodging-houses, with proper supervision, in an industrial district like Hebburn should be provided.

The condition of the dairies, cowsheds, milkshops and slaughter-houses appears to have been fairly satisfactory, but "a public slaughter-house with proper bye-laws would certainly be "an improvement and a more up-to-date method of slaughtering." There are 13 workshops in the district which are stated to have been kept in good condition. No notices were served or defects detected in connection with any of them. Dr. Walker expresses the view that much good may result from the medical inspection of school children, especially if such inspection is followed up by home supervision, but he points out that the recommendations of the Board of Education that the Medical Officer of Health should control or be responsible for the medical inspection of the children has not been adopted by his Council. He further adds:—"In my "opinion the relationship between the school and the home, which, "the Board of Education states it is so important to maintain, "cannot be efficiently controlled except through the Health "Department. You have taken no steps to provide for the "supervision at the home (and it is in the home, in fact, that both "the seed and the fruit of public health are to be found) of school "children who have been found in need of attention as a result of "Medical Inspection. If that supervision or rather the Act is to "be properly administered, a Health Visitor or School Nurse is "necessary, and she should certainly act under the advice of the "Medical Officer of Health of the Authority represented by the "Education Committee. The recommendations and spirit of the "Board of Education are that unless the examination of the

"children at school and the examination of the home surroundings "can be conducted jointly; any defects found in children at school "cannot be remedied, and the true intention of the Act as given "and recommended to every Authority will not be fulfilled." As to the sanitary condition of the elementary schools in the district, the report points out the desirability of improving the conveniences and lavatory arrangements in several of the schools.

Attached to the report is that of the Inspector of Nuisances from which it appears that 185 informal and 66 formal notices were served under the Public Health Acts and that 174 nuisances were abated. There was one seizure of unwholesome food, the defendants being subsequently fined. During the year 126 houses and 117 lots of infectious bedding, as well as six schools, were disinfected.

### SANITARY REQUIREMENTS.

The following are mentioned:—

1. An additional Sanitary Inspector.
2. The permanent employment of a man at the Isolation Hospital.
3. The administration of the Education (Administrative Provisions) Act, 1907, in accordance with the recommendations of the Board of Education.
4. The adoption of the Notification of Births Act and the appointment of a Lady to act as Health Visitor and Sanitary Inspector.
5. The proper disposal of town refuse either at sea or by refuse destructor.
6. The early completion of the sanitary improvements required in the Colliery area or East Ward.
7. Additional common lodging-houses.
8. The pushing forward of the Conjoint Smallpox Hospital Scheme.
9. A public slaughter-house.
10. Dr. Walker also suggests the provision of public baths and increased and better outlets from the Quay to the New Town and to the Colliery.

## HETTON-LE-HOLE.

J. ADAMSON, M.D., Medical Officer of Health.

Area in Acres, 1,617. Estimated Population, 1907, 14,400.

Birth-rate.	Death-rate.	Zymotic death-rate.	Infant mortality-rate.
36.6.	15.9	2.36	144.

Phthisis death-rate, 0.83. Respiratory diseases death-rate, 2.7.

The chief mortality statistics were fairly satisfactory and compare favourably with those for the previous year. The report deals at some length with the subject of infant mortality and includes a special report by Dr. Adamson on the subject in which he advocated the appointment of a lady health visitor. The District Council did not adopt this recommendation but arranged for the distribution by the Registrar of leaflets on the feeding and managements of infants to persons registering the births of children.

### INFECTIOUS DISEASES.

The notifications numbered 106, including 49 of scarlet fever, 31 of diphtheria, and 13 of enteric fever. The cases of scarlet fever were of a mild type and caused no deaths. Four of the cases of diphtheria ended in death. The cause of these cases is not mentioned, but referring to the cases Dr. Adamson points out that the infection may lie dormant for a long time, hence the necessity for careful disinfection. The etiology of the cases of enteric fever is not discussed, but seven of the cases occurred in the Hetton Ward. Of the 29 cases isolated in hospital 19 were diphtheria, nine enteric fever, and one of scarlet fever, and Dr. Adamson expresses satisfaction that more use is being made of the hospital. Among the non-notifiable diseases there were four deaths from measles, six from whooping cough, and seventeen from diarrhoea, all the latter being among children under five years of age. The diminished mortality from diarrhoea was, in Dr. Adamson's opinion, partly the result of the cold summer but he hopes it may be partly owing to improved sanitation and to more attention to domestic hygiene. There has been no case of puerperal fever in the district for three years.

## GENERAL SANITATION.

The water supply is stated to have been satisfactory and of good quality, while Dr. Adamson expresses himself as satisfied with the methods of scavenging, with the drainage, sewerage and sewage disposal, and, with one exception, with the condition of the dairies and cowsheds. New regulations as to dairies and cowsheds have now been sanctioned by the Local Government Board. Although the slaughter houses have been regularly inspected and kept in a fair condition, the provision of a public slaughter-house is again urged. Building operations have been active in the district, and the Hetton Coal Company have made many improvements, and are improving the yards and conveniences in Lyons Street and will subsequently deal with Francis Street and Chapel Street. In Back Market Street there is some tenemented property the sanitary condition of which is bad, and "is having "the serious consideration of your officers." "The lodgings- "houses are as good as can be expected," and the condition of the workshops is satisfactory, a marked improvement having been made during the past four years. The report again urges the great need for making, channelling, &c., the new streets which have been laid out.

## SANITARY REQUIREMENTS.

1. Attention to the insanitary tenemented property in Back Market Street.
2. A public slaughter-house.
3. The proper making, channelling, &c., of all the streets in the districts which are in a bad condition. For several years past Dr. Adamson has made this recommendation.

## HOUGHTON-LE-SPRING.

D. S. PARK, F.R.C.S., Medical Officer of Health.

Area in Acres, 1,551. Estimated Population, 1907, 9,425.

Birth-rate. Death-rate. Zymotic death-rate. Infant mortality-rate.

36.7	16.2	1.16	147
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Phthisis death-rate, 1.06.	Respiratory diseases death-rate, 2.97.
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Excepting the phthisis death-rate all the mortality statistics given above compare favourably with similar figures for 1906. As to infant mortality Dr. Park prepared a special report in September, 1907, and it is included in the report under review. In it he states that while many causes contribute to the mortality the chief one is "carelessness and lack of knowledge on the part of the "mothers as to the proper feeding and clothing and general "management of infants and young children," and he recommends the appointment of Lady Health Visitors and proper instructions to the elder girls in our elementary schools.

### INFECTIOUS DISEASES.

The notifications which numbered 62 or two more than in 1907, included 19 of diphtheria, 18 of scarlet fever, and five of enteric fever. Several of the cases of diphtheria contracted the disease as a result of infection from an earlier case, owing to the parents neglecting to take precautions as to isolation. Dr. Park again recommends that antitoxin should be provided free of charge to all medical men, as the use of this remedy would considerably reduce the mortality from diphtheria. Indiscriminate visiting at infected houses is blamed for the spread of scarlet fever in the district. None of the cases of enteric fever were found to be associated with insanitary conditions likely to cause the disease, though in two instances there may have been some connection with cases occurring some months previously. Measles caused four deaths, but it was not found necessary to close the schools, though they were disinfected during the holidays by the District Council at the expense of the school authorities. Dr. Park views with satisfaction the institution of medical inspection of school children as likely to have good results. Whooping cough and diarrhoea respectively caused one and four deaths. Dr. Park again expresses the opinion that the proximity of conveniences to dwellings and want of attention to their cleanliness by the tenants are responsible for outbreaks of diarrhoea. Only eight cases were isolated in the hospital, including four cases of measles from the Workhouse, but the report urges the importance of hospital

isolation when it cannot be provided at home, and suggests that the County Council should institute lectures throughout the county on infectious diseases and their means of spreading, when the importance of proper isolation would be brought home to the public.

### GENERAL SANITATION.

The water supply was not altogether satisfactory and a good deal of water was lost by burst mains and by flushing out large quantities of black oxide of manganese deposited from the water. Extensions of the water supply have been made where required and owing to the partial failure of the feeders arrangements have been made with the Sunderland and South Shields Water Company for a supplementary supply in future and this should be a great boon to the district. At Quarry Row it was found that the water mains became contaminated by gas from the gas works which enters the water pipes when the water is cut off at night. This is, as Dr. Park says, a very serious matter, for if gas can enter so can other and even more serious impurities. In the meantime, until the leakage has been found and remedied it has been decided not to turn off the water at nights, and Dr. Park advises that as far as possible the water supply should always be constant.

As to sewerage, the report states that in some districts the sewers are seriously affected by subsidences, notably in Chilton Moor and the Villa Estate, but as the land has not yet settled immediate relaying is not desirable. The new filters at the sewage disposal works have worked well and additional filters are to be constructed. The work of scavenging and refuse removal was fairly satisfactorily performed, but at times the work of the contractor was not satisfactory. Dr. Park states that spouting of houses has been much improved and that the colliery houses have been kept in a good state of repair. The condition of many of the private streets is bad and their improvement under the Private Street Works Act is again urged. The two common lodging-houses are reported to have been kept in a fair condition and a new common lodging-house, fitted with baths and accommodation for 60-70 lodgers, will shortly be ready for occupation in Gas

Works Lane. The condition of the dairies and cowsheds is stated to be satisfactory, but Dr. Park urges at some length the importance of properly housing and feeding cows and of scrupulous cleanliness in all operations connected with the milk supply. He especially condemns the filthy practice of spitting on the hands before commencing to milk cows. The slaughter-houses were kept clean, but slaughtering is still done in the shops. Dr. Park urges the desirability of "humane" slaughtering.

The factories and workshops were inspected and in three cases a want of cleanliness was found, and in one the ventilation was defective. Additional sanitary conveniences were ordered to be provided in one instance. The table as to Factories and Worshops which the District Medical Officer of Health is required to fill up is not included in the report.

According to the report of the Inspector of Nuisances 216 nuisances were abated, but no formal notices were served under the Public Health Acts, while one lot of bedding and six houses and seven schools were disinfected on account of infectious disease. New houses to the number of 33 were occupied during the year.

#### SANITARY REQUIREMENTS.

1. An improvement in the water supply and the prevention of the pollution of the water in Quarry Row district by gas and possibly other impurities.
2. The provision by the District Council of diphtheria antitoxin.
3. The remedying of the defects in the sewers arising from subsidences.
4. An improvement in the condition of the private streets.
5. Careful supervision of the scavenging contractors.

#### LEADGATE.

W.M. ALLEN, M.D., Medical Officer of Health.

Area in Acres, 1,836. Estimated Population, 1907, 4,750.

Birth-rate. Death-rate. Zymotic death-rate. Infant mortality-rate.

33.2	14.7	2.73	101
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Phthisis death-rate, 0.63.	Respiratory diseases death-rate, 2.5.
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Except for a high zymotic death-rate as a result of an unusual number of deaths from diarrhoea and measles, the chief mortality statistics are satisfactory. The infant mortality-rate was the lowest recorded in the district. The deaths from diarrhoea were chiefly among bottle-fed babies, and Dr. Allen says "If "these babies were regularly fed with milk sterilized by boiling "and perfectly clean bottles used, the diarrhoeal death-rate would "be very much lower. With a gradually diminishing birth-rate "no effort should be spared to keep the infants alive."

### INFECTIOUS DISEASES.

The notifications numbered 20, included 12 of scarlet fever, three of diphtheria, and one of enteric fever. The etiology and distribution of the cases are not discussed in the report, but none of them proved fatal, and in five instances the patients received hospital treatment. There were seven deaths from diarrhoea, four from measles, and one from whooping cough, all these 12 deaths being among children under five years of age.

### GENERAL SANITATION.

Very little detailed information is given in the report on this subject, but it is stated that 27 new houses were erected, and 12 old houses re-built and enlarged, that asphalt footpaths have been laid down in Iveston, Redwell Hills, and Watling Street, that water-closets have replaced privies in a few instances, and that notices have been served on the owners of old property asking for a new back-window for each house in order to admit more light and provide for better ventilation. The report also states that the water supply from the Weardale and Consett Water Company has been good and plentiful, that the cowsheds and slaughter-houses have been kept clean, that the sewage disposal works have acted well during the year, and that the factories and workshops have been kept in a sanitary condition.

The work of scavenging and refuse removal is still left to the owners or occupiers. Dr. Allen attributes the improved health of the district to the re-building of the Consett Iron Company's

houses, and the cementing of the ground areas of dwellings, coupled with the prompt suppression of nuisances and the remedy of sanitary defects, but he adds that there are still a good many of the old houses to be re-built, and a good many midden-privies to be converted into ash or water-closets.

### SANITARY REQUIREMENTS.

1. The scavenging and removal of refuse should be performed by the District Council.

2. The work of reconstructing the old cottages, and of converting the large ashpit-privies into ash or water-closets should be continued.

This report is type-written.

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### RYTON.

JAMES W. SMITH, M.D., Medical Officer of Health.

Area in Acres, 5,169.      Estimated Population, 1907, 10,800.

Birth-rate.	Death-rate.	Zymotic death-rate.	Infant mortality-rate.
32.5	13.0	2.12	125

Phthisis death-rate, 0.46.      Respiratory diseases death-rate, 1.57.

The vital statistics are generally satisfactory, though a comparatively large number of deaths from measles, diarrhoea and diphtheria are responsible for a rather high zymotic death-rate. The infant mortality-rate was below the average, in fact in only two previous years has the rate been lower. Dr. Smith deals at some length with the causes of infant mortality and the necessity for removing them as far as possible. He does not, however, advise the adoption of the Notification of Births Act for the district.

### INFECTIOUS DISEASES.

The notified cases declined from 128 in 1906 to 97 and the most prevalent diseases were diphtheria (43 cases) and scarlet fever (40). Most of the diphtheria cases (23) occurred at Green-side and most of them were in good houses in new streets. As to

the cause, Dr. Smith cannot give a definite opinion. In a few cases direct infection from a previous case was probable, but neither this nor school attendance satisfactorily accounts for the prevalence of the disease. The value of antitoxin in the treatment of diphtheria is emphasised. Most of the cases of scarlet fever were in Crawcrook (24) and Ryton (14), but they were generally of a mild type and the disease was never epidemic. There were seven cases of enteric and continued fevers and they "were undoubtedly due to local causes." Measles was severely epidemic during the latter half of the year and caused seven deaths. The outbreak occurred just before the schools closed for the summer holidays, and Dr. Smith is satisfied that school closure as a means of lessening the spread is ineffective. There were two deaths from whooping cough and seven from diarrhoea. The number of cases isolated in hospital was 12. Dr. Smith speaks highly of the help and information afforded to medical practitioners by free bacteriological examination in doubtful cases of disease.

### GENERAL SANITATION.

The water supply was abundant and continuous. In consequence of the failure of the local supplies, the district is now dependent on the Newcastle and Gateshead Water Company for its water supply, and a Bill is being promoted in Parliament to enable the sale of the Council's Water Works to the Water Company. The daily average supply slightly exceeds 11 gallons per head. The sewers are reported to have received careful attention and to have been well flushed and disinfected. Woodside has now been connected with the general sewerage system by a new sewer, and when a few extensions have been carried out the whole of the district will be efficiently drained. The scavenging and removal of refuse have been efficiently performed by the District Council, and satisfactory reference is made in the report to the condition of the drains, cowsheds and slaughter-houses. The slaughter-houses are licensed and the cowkeepers and dairy-men registered. The report states that there are no factories in

the district, but no reference is made to workshops and work-places. Several road improvements were made during the year, including widening, paving and making, and several back streets are receiving the attention of the Council, but the report mentions a number of public and private streets which are in a bad state and require attention; notably Northumberland Road and the road from Newburn Bridge Cottages. The inspector reports that 130 nuisances were abated as the result of the service of 138 informal and 37 formal notices, that 159 new houses were built and occupied during the year, and that 15 dwellings and one school were disinfected on account of infectious disease prevalence.

### SANITARY REQUIREMENTS.

The public and private roads mentioned in the report as in a bad condition should be put into a proper state of repair.

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### SEAHAM HARBOUR.

L. GERALD DILLON, M.D., Medical Officer of Health.

Area in Acres, 1,101. Estimated Population, 1907, 11,750.

Birth-rate.	Death-rate.	Zymotic death-rate.	Infant mortality-rate.
41·6	20·0	3·23.	141.

Phthisis death-rate, 1·10. Respiratory disease death-rate, 2·9.

The birth-rate was very high, and the total death-rate also increased owing to an excessive mortality from measles, whooping cough, and accidents, 41 deaths resulting from these causes as compared with 6 in 1906. There was a very satisfactory decline in the infant mortality-rate, but the number of deaths of children under five years continued high, considerably more than one-half of the total deaths coming within that period. Dr. Dillon classifies these deaths in a special table from which it appears that 31 of such deaths were the result of premature births or initial debility, 32 were caused by measles and whooping cough, 23 by tuberculous diseases, and 22 by bronchitis and pneumonia. He

discusses the chief causes of these deaths, viz., carelessness, neglect, and inexperience in feeding and management, and he sets forth in the report certain rules which every nursing mother should remember. Special reference is made to the relation of tuberculosis among children to the milk from tuberculous cows. Dr. Dillon advises that his Council should obtain a bed in the Stanhope Sanatorium for the treatment of consumptions from the district.

### INFECTIOUS DISEASES.

The notifications increased from 13 in 1906 to 23, and included 10 of diphtheria, nine of erysipelas, three of scarlet fever, and one of enteric fever. The case of enteric fever was contracted as a result of visiting an infected house outside the district and ended fatally. There were also three deaths from diphtheria. Measles of a virulent type became epidemic early in the year, causing 22 deaths, and at the end of March the elementary schools were closed for six weeks, disinfected and cleansed. There were also 11 deaths from whooping cough, but diarrhoea was fatal in only one instance. In three cases (diphtheria) the patients were isolated in hospital.

### GENERAL SANITATION.

The water supply is reported to have been satisfactory in every respect. Dr. Dillon reports with satisfaction that all the insanitary midden-privies have now been abolished, 676 having been dealt with during the past six years, and he points out that the improved health of the town has justified the expense, typhoid fever having been practically stamped out. During the past seven years 222 yards have been cemented or asphalted, 20 having been so improved during 1907, but there are still some yards paved with cobble stones which are insanitary. Two stone drains have been replaced by sanitary pipes (Green Street and Henry Street), while at the North Beach the large iron sewer pipes have been extended and relaid. During the year 121 new houses were erected, 53 of which were occupied, while under the Housing of

the Working Classes Act 18 dwellings were dealt with, eight of which were made habitable and five permanently closed. The slaughter-houses, the three common lodging-houses, the cowsheds, and the 20 milk-shops were regularly inspected, and their condition is reported to have been satisfactory, though "I consider "that the floors of all slaughter-houses should be made of im- "pervious material." The scavenging which is performed by employés of the District Council was done in a satisfactory manner, and owing to the abolition of the middens, night-scavenging has been discontinued. The refuse is disposed of either on land or into the sea. The 10 factories, 23 workshops, and 46 bakeries were regularly inspected and the defects detected which arose from want of cleanliness (nine cases), want of floor drainage (one), and other nuisances (six), were subsequently remedied. There are no outworkers in the district. The inspector reports that 154 nuisances were abated as the result of the service by him of the same number of informal notices, and that 27 houses, seven schools, and 19 lots of infected bedding were disinfected.

### SANITARY REQUIREMENTS.

1. The cementing or asphalting of all improperly paved yards and footpaths.
2. The improvement of the present sewerage system.
3. Impervious paving to the floors of all slaughter-houses.

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### SHILDON.

S. FIELDEN, M.D., Medical Officer of Health.

Area in Acres, 1,066.      Estimated Population, 1907, 13,403.

Birth-rate.	Death-rate.	Zymotic death-rate.	Infant mortality-rate.
32.3	18.5	2.23	182

Phthisis death-rate, 0.89.      Respiratory diseases death-rate, 4.17.

Though rather lower than in 1906, the total death-rate again considerably exceeds the county rate, and the infant death-rate was to Dr. Fielden's great regret again excessive. He deals with

the subject at some length and shows that while the average infant death-rate was 167 for the 10 years (1887-1896) in the succeeding decennium it rose to 179 per 1,000 births, and he urges his Council to give the matter their very serious consideration—especially the question of appointing a Lady Health Visitor and of adopting the Notification of Births Act.

### INFECTIOUS DISEASES.

There were 113 notifications received, of which 45 were scarlet fever, 42 diphtheria and eight enteric fever, and of these 55 were removed to the isolation hospital for treatment. In the previous year 232 cases were notified. The cases of scarlet fever were of a mild type and none of them had a fatal termination. The diphtheria cases were not associated with insanitary home surroundings and, with four exceptions, were among children of school age. Dr. Fielden thinks that the most common cause was direct infection from unrecognised cases attending school. The importance of keeping children with sore throats away from school when diphtheria and scarlet fever are prevalent, and of school attendance officers not being too energetic for the sake of keeping up a good percentage of attendance is urged, as is also ventilation and the disinfection periodically of school buildings. There were four deaths from enteric fever, nine from measles, seven from whooping cough, and five from diarrhoea, but no reference is made in the report to the causes or distribution of these diseases.

### GENERAL SANITATION.

The water supply “continues to be plentiful and in every way “satisfactory.” Although details are not given, the report states that a great amount of sanitary work has been done, including the abolition of midden-privies in favour of water-closets or ash-closets, steady progress with the making and paving of both front and back streets, and improved flushing and ventilation of the sewers. The sewage disposal works and the destructor have worked very satisfactorily, and the electric light has been of great advantage to the inhabitants. The scavenging was not altogether

satisfactory, but more horses have been provided "and I trust no further complaint will be made." As to cowsheds and milk-shops Dr. Fielden says:—"These are in much the same condition as when reported on in August, 1906, and in my opinion are quite unsuitable. With very few exceptions they ought to be re-constructed." The slaughter-houses were inspected, but nothing of serious moment discovered, and all the factories (14) and workshops (30) were twice inspected during the year, but "beyond some very trifling defects nothing was found."

In the Sanitary Inspector's Department 93 nuisances were abated and 106 informal and eight formal notices served, while 58 houses were disinfected after infectious disease. Forty new houses were erected and occupied during the year.

### SANITARY REQUIREMENTS.

The following are mentioned:—

1. Progress with the work of abolishing privy-middens and of cementing or asphalting backyards and open spaces.
2. The appointment of a Lady Health Visitor for the district.
3. The reconstruction of dairies and cowsheds.
4. The disinfection of the elementary schools at frequent intervals.

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### SOUTHWICK-ON-WEAR.

JOHN J. CARRUTHERS, M.B., Medical Officer of Health.

Area in Acres, 856.      Estimated Population, 1907, 15,148.

Birth-rate.	Death-rate.	Zymotic death-rate.	Infant mortality-rate.
35.3	16.1	1.7	132.

Phthisis death-rate, 0.5.      Respiratory diseases death-rate, 2.9.

The estimated population is the same as in 1906, as owing to bad trade a number of houses became empty during the latter part of the year. The birth-rate was the lowest recorded during the previous ten years, while the chief mortality statistics compare very favourably with the average of the previous ten years. The

highest death-rate occurred during the first quarter (23.0 per 1,000 population), while the lowest was in the third quarter (12.3).

### INFECTIOUS DISEASES.

There were 73 notifications, including 53 of scarlet fever, 10 of enteric fever, and 7 of diphtheria. Scarlet fever was most prevalent during August and September chiefly among children attending the infant classes in one of the schools, but no deaths resulted. Of the enteric fever cases the immediate surroundings were conducive to the disease in four instances, and Dr. Carruthers says, "speaking generally, there are still so many open middens "in the district that it is not to be wondered at if a case of typhoid "fever occurs now and again. Wherever these privy-ashpits exist "the atmosphere in the neighbourhood is more or less contaminated "with the products of organic decomposition, and this condition "favours the onset of typhoid fever, diphtheria, and other "diseases." Measles was fatally prevalent during the early part of the year, and altogether caused 10 deaths, nine of them being among children under five years of age. The elementary schools were closed for several weeks in consequence, and the results were such as to afford strong support to the idea that the closure of the schools is efficacious in preventing the spread of measles. There were 10 deaths from diarrhoea as compared with 52 in 1907. As regards this largely reduced mortality Dr. Carruthers says, "It would be very gratifying if we could ascribe this change for "the better to improved sanitary and domestic conditions, but it "must be regarded as almost entirely due to the cool, moist "weather experienced during the summer and autumn." The cases treated in the Isolation Hospital numbered 39, including 31 of scarlet fever and 8 of enteric fever.

As regards accommodation for smallpox patients the proposal of the Joint Hospital Board to unite with the South Shields Corporation is under consideration, and in the meantime arrangements exist by which smallpox patients from this district will be treated in the Smallpox Hospital of the Corporation. Cerebro-spinal fever was added to the list of notifiable diseases on the

1st September while the Infectious Diseases (Prevention) Act was adopted and came into operation in May.

### GENERAL SANITATION.

Generally the water supply of the district is obtained from the Sunderland and South Shields Water Company, and is generally satisfactory, but a supply is still required for the dairy farm of Witherwack and also Thistley Hall, to which places water has to be carted. Sewers have been laid in several streets and additional manholes provided in different parts of the district. During the year 59 objectionable midden-privies were abolished, and the report urges that this work should be rapidly pushed on. The work of scavenging and refuse removal is satisfactorily performed by employees of the District Council. The cowsheds and dairies were frequently inspected, but no serious faults were observed. New byres were erected at one farm. The District Council have appointed a Veterinary Inspector to examine all the dairy cows in the district, but no case of tuberculosis of the udder was detected.

During the year 224 inspections of factories and workshops were made, but no information is given in the report as to the conditions found on inspection. There were eight inspections of outworkers' premises and these are reported to have been found satisfactory; at the end of the year there were 25 workshops on the register.

From the report of the Inspector of Nuisances it appears that 401 nuisances were abated after notice, that three dwellings were permanently closed as unfit for habitation, that 26 new houses were erected and occupied during the year, that one well was closed on account of polluted water, and that 74 houses, one school, and 71 lots of infected bedding were disinfected.

### SANITARY REQUIREMENTS.

The following are mentioned:—

1. The substitution of water-closets for privy-ashpits and ash-closets.

2. A public slaughter-house.
3. A public mortuary.
4. An efficient water supply to Thistley Hall and Witherwack Farm.

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## SPENNYMOOR.

W. MUSSELLWHITE, M.R.C.S., D.P.H.,  
Medical Officer of Health.

Area in Acres, 3,388.      Estimated Population, 1907, 16,842.

Birth-rate.	Death-rate.	Zymotic death-rate.	Infant mortality-rate.
41.1	21.6	4.2	154

Phthisis death-rate, 1.06.      Respiratory diseases death-rate, 4.03.

The birth-rate is high as are all the chief mortality rates, and as Dr. Mussellwhite says the total death-rate is much in excess of what it should be, but he points out that there was a large mortality among infants, and probably at least one-half of these deaths were preventable. As to the high infant mortality, he expresses the opinion that it is in this direction the most improvement can be made, and he adds—"I am sorry I cannot get the Council to give "the amount of attention to it which in my opinion the matter "deserves. The Council certainly did consider the matter of "appointing a Lady Health Inspector, but rejected it without giving "any definite reasons for doing so unless it were on the ground of "expense. Seeing that the Shildon District Council offered to "share the expense, the experiment would not have cost much " (about £40 per annum) less than the wages of one scavenger. "With regard to pneumonia and bronchitis several of these deaths "were secondary to measles, but as I have before stated one can "not see so many young babies in the town on a cold Saturday "night without feeling that it must increase the number of deaths "from these diseases."

The opinion is expressed in the report that the population is larger than the estimate given in the report. With reference to the birth-rate, which was highest in the Ferryhill Ward, Dr. Mussellwhite points out that it shows no inclination to follow the

serious fall in the birth-rate of the country generally and says "I "have reason however to believe that the pernicious and dangerous "practice of using a certain drug as an abortifacient is spreading "to the district. The great risks run by using this dangerous drug "have only to be known to cause a discontinuance of the practice. "The birth-rate is highest in the Ferryhill Ward, 43·5, it is 41 in "the Spennymoor Ward, and lowest, 36·6, in the Tudhoe Ward."

### INFECTIOUS DISEASES.

The notifications numbered 82 of which scarlet fever accounted for 40, diphtheria for 16, and enteric fever for 17. The cases of scarlet fever were generally of a mild type and only one death was registered from that disease. Some of the cases were traced to an unrecognised case which was not reported until it was in the peeling stage. Of the diphtheria cases, five proved fatal, and except in two instances attributed to direct infection, no source of infection could be traced. Of the enteric cases two or three appeared to be due to eating shell fish, but in the others no cause of infection could be traced. In four cases death resulted. Measles was epidemic during the last quarter of the year and altogether caused 29 deaths, 26 of which were among children under two years of age. On account of the epidemic prevalence of this disease the infant department in most of the elementary schools was closed. There were four deaths from whooping cough and respecting this disease Dr. Mussellwhite says "In my opinion "the infectiousness of this disease is not sufficiently recognised "by the Education Authorities. I often come across patients who "tell me the school attendance officers are continually urging "them to send their children to school with whooping cough. "When one considers the disease lasts six or eight weeks it is "obvious a parent must be endowed with an unusual amount of "obstinacy if she resents the importunity of a man who is on "the doorstep every second or third day."

Diarrhœa was responsible for 29 deaths as compared with 28 in the previous year, and most of them are attributed to improper feeding due to the ignorance and negligence of the parents.

The number of cases isolated in hospital was 56, equal nearly to 70 per cent. of the total cases notified. A trained nurse was engaged during the year and the hospital administration receives favourable comment.

### GENERAL SANITATION.

The general water supply from the Weardale and Consett Water Company was satisfactory and the Water Company have now covered over their reservoir at the top of Stratton Street so that surface contamination will be obviated. Negotiations are in progress with the Durham Rural District Council for supplying some cottages at Butcher Race with pure water, and the question of supplying pure water to outlying farms is also receiving consideration. As regards house accommodation the report states that there is a great insufficiency of houses, which necessitates a certain amount of over-crowding, and Dr. Mussellwhite says "I am of opinion that if 100 houses could be opened in the "district to-morrow they would be let within a week." Instances are given in the report of families paying exorbitant rents for insanitary dwellings, but some of the worst cases of over-crowding have since been dealt with, and the opinion is expressed that the closing of Binchester Colliery will tend to relieve the congestion. The emptying of conveniences and the removal of refuse are performed at night-time by contractors who require constant supervision, and in one or two districts the work was badly done. There is an increasing difficulty in providing tips for the refuse and the question of providing a refuse destructor will shortly have to be considered. No improvement has been made in the arrangement for sewage disposal, though the matter has been receiving the attention of the District Council and the majority of the Council now favour one scheme for the whole district as recommended by the Local Government Board. The attention of the District Council was again called to the river pollution by sewage from the district by the County Council. Steps have been taken to improve the sanitary conveniences of some of the elementary schools, and Dr. Mussellwhite says "It is to be hoped that the

“Education Authorities will soon see their way to provide flushing “closets for the remainder of the elementary schools in the “district, as earth closets are quite unsuitable.”

Among the sanitary work accomplished during the year may be mentioned the re-laying of 21 house floors, the conversion of 223 midden-privies into ash-closets, and the repairing or re-laying of 64 yards; the back streets of the town are also being gradually improved. In consequence of an adverse legal decision the District Council had to rescind their resolution that all new back streets should be paved with scoria brick. As regards light and ventilation the cowsheds are stated to be mostly in order, but a number of these in the Tudhoe district still have cobble floors. Attention is drawn in the report to the risk of contamination of milk when exposed for sale in small greengrocers and general shops, and Dr. Mussellwhite urges the importance of consumers boiling all their milk. Slaughter-houses were inspected, and the bye-laws as to the frequent removal of refuse were obeyed. The slaughter-houses “are far too numerous to allow of frequent “inspection, and are mostly in too close proximity to dwelling-“houses.” Under the Factory and Workshop Act 141 inspections were made and three written notices were served for defects which were subsequently remedied. At the end of the year there were 76 workshops and work-places on the register, and there are also 20 factories in the district.

From the inspector’s report it appears that 464 nuisances were abated; that one dwelling was permanently closed as unfit for habitation; that 69 new houses were erected during the year, 58 of them being occupied; that one sample of water was condemned as unfit for use; and that 30 houses and three schools were disinfected, and 16 lots of infectious bedding destroyed.

### SANITARY REQUIREMENTS.

1. The proper making of the back streets with tar macadam.
2. A comprehensive scheme of sewage disposal for the whole district.
3. A refuse destructor.

4. A Lady Health Inspector.
5. A proper water supply for all dairy farms.

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## STANHOPE.

JOHN GRAY, M.B., Medical Officer of Health.

Area in Acres, 216. Estimated Population, 1907, 1,993.

Birth-rate.	Death-rate.	Zymotic death-rate.	Infant mortality-rate.
22.0	17.5	0.5	68

Phthisis death-rate, 2.00. Respiratory diseases death-rate, 1.00.

The birth-rate was below and the death-rate above the average for the past ten years. The phthisis death-rate remains persistently high.

### INFECTIOUS DISEASES.

The 15 cases notified included one of scarlet fever and 13 of diphtheria. Most of the cases of diphtheria occurred in the first quarter of the year. Measles assumed an epidemic form in July and August and necessitated the closure of the schools.

### GENERAL SANITATION.

The district is stated to have a plentiful supply of good water. The slaughter-houses and the one factory are reported to be in good order, but no action has yet been taken to remedy the insanitary conditions of some of the cowsheds, to which Dr. Gray called attention in his last report. During the year, 22 informal and 16 formal notices were served with the result that 25 nuisances were abated. No improvements are noted except the construction of a water-closet and an earth-closet in place of two ashpit-privies.

### SANITARY REQUIREMENTS.

1. Some means of isolation of cases of diphtheria, scarlet fever and enteric fever.
2. Better means of access to back premises to facilitate Public Scavenging.
3. Notification of phthisis.

## STANLEY.

T. BENSON, L.R.C.P., Medical Officer of Health.

Area to Acres, 3,593. Estimated Population, 1907, 19,000.

Birth-rate.	Death-rate.	Zymotic death-rate.	Infant mortality-rate.
37.3	15.4	1.6	177

Phthisis death-rate, 0.31. Respiratory diseases death-rate, 2.81.

The birth-rate remains high, and with the exception of the infant mortality rate the chief mortality statistics are satisfactory, and show some slight improvement on the previous year. The infant mortality rate which was higher than in 1906, when there was greater prevalence of zymotic disease, was maintained at its high rate by the number of deaths resulting from premature birth (17), congenital defects (15), and atrophy, debility and marasmus (19).

## INFECTIOUS DISEASES.

The notified cases increased from 103 in 1906 to 115, and included 36 of scarlet fever, 25 of diphtheria, and 30 of enteric fever. At no time was either scarlatina or diphtheria epidemic in the district, a satisfactory state of affairs, which is attributed to the early removal to the Infectious Diseases Hospital of those cases for which it was impossible to obtain proper isolation at home. Enteric fever was most prevalent in the month of August, when there were nine cases, three of which were members of the same family, and the remainder were probably directly infected from a case in the neighbourhood. During the remainder of the year the cases were sporadic, and no cause of infection was discovered. Measles invaded the district on two occasions in the months of May and July, and in the latter month the epidemic necessitated the closure of the schools at South Moor and Ox Hill. Eighteen deaths were caused by measles. Rather more than half the number of cases of scarlet fever, diphtheria and enteric fever were isolated at the hospital provided by the Lanchester Joint Hospital Board. Dr. Benson expresses his regret that the public do not to a greater extent avail themselves of the accommodation provided.

## GENERAL SANITATION.

The water supply from the Weardale and Consett Water Company is stated to be abundant and of excellent quality. During the year, there were erected 159 new houses, 32 of which were tenemented, and the remainder were self-contained. Seventy-one houses were dealt with under the Housing of the Working Classes Act, 1890, with the result that 59 have been rebuilt or repaired, and seven have been closed permanently. Nine earth closets have been substituted for four privy-middens. The sewage disposal works are reported to give excellent results, but it is recommended that subsidiary works should be constructed to deal with the sewage from houses situated outside the area of the present works. The scavenging appears to be satisfactorily performed by contract, and the slaughter-houses and the one common lodging house are stated to be maintained in good order. The condition of the cowbyres as regards ventilation and cleanliness appears to be unsatisfactory. The 18 factories and 32 workshops in the district are stated to comply strictly with the provisions of the Act and to be satisfactory. It is stated that for abatement of petty nuisances 215 notices were served and generally received prompt attention. No details, however, are given, and the report is lacking in information as to the housing accommodation of the district.

## SANITARY REQUIREMENTS.

1. Subsidiary works for the disposal of sewage from houses outside the area dealt with by the present works.
2. An improvement in the condition of the cowsheds in the district.

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## TANFIELD.

T. BENSON, L.R.C.P., Medical Officer of Health.

Area in Acres, 4,779.	Estimated Population, 1907, 9,300.		
Birth-rate.	Death-rate.	Zymotic Death-rate.	Infant mortality-rate.
34.4	14.8	2.5	118
Phthisis death-rate, 0.86.	Respiratory diseases death-rate, 2.47.		

The infant mortality-rate and the zymotic death-rate both show considerable improvement, and the other vital statistics are satisfactory. Dr. Benson is of the opinion that much of the loss of infant life in his district is unavoidable because many of the children are constitutionally weak from birth. He says, "A "health-born child has extraordinary vitality, and does not readily "succumb to a slight illness or errors of diet; on the other hand, "to those constitutionally affected, a very trifling cause extin- "guishes the spark of life. Oliver Wendell Holmes, the American "Philosopher, when asked how soon the education of the child "should begin, replied 'a hundred years before he is born.' If "this is necessary from a mental and educative point of view, it "is certainly necessary, if children are to be physically healthy "and strong, with vitality enough to fight against infantile "diseases, that the parents, at any rate, should lead moral, "healthy, and temperate lives."

### INFECTIOUS DISEASES.

One hundred and seven cases, as compared with 154 in 1906, were notified during the year, and included 46 cases of scarlet fever, 40 of diphtheria, and five of enteric fever. Scarlet fever was of a mild type and was never epidemic in any part of the district. Diphtheria was most prevalent during the months of April, July, and August, but never to any serious extent. The cases of enteric fever were all sporadic and no sanitary defects or other causes of infection were discovered. All five cases were removed to the isolation hospital.

### GENERAL SANITATION.

The water-supply from the Weardale and Consett Water Company is reported to have been satisfactory. During the year, 106 new houses were built, 38 of the houses possessing five rooms or more, and 64 four rooms, while all had self-contained yards. Four houses were tenemented, having two rooms below and three above, and a yard common to both. Two houses were re-built and ten were repaired. Forty-six privy-middens were replaced

by more modern conveniences. Dr. Benson mentions that insanitary conditions in the village of Hobson, where certain of the houses have their outoffices so situated as to be inaccessible to the scavenger's cart, require attention. The report states that "a large number of notices for the removal of petty nuisances have been served and acted upon," but no details are given. The treatment of the sewage of the village of Causey has not yet been undertaken, but otherwise the sewage disposal of the district is very satisfactory except in one or two instances where the method of "Broad Irrigation" is used. Dr. Benson recommends that either extensions should be made or new methods adopted where the land is showing signs of becoming sewage-sick. The scavenging is performed by contract, but whether satisfactory or otherwise is not stated. The cowsheds are stated to be well ventilated, and the dairies and slaughter-houses to be kept clean. The ten factories and nine workshops in the district are reported to be in good order.

### SANITARY REQUIREMENTS.

1. Means of access for the scavengers' carts to the out-offices of certain houses at the village of Hobson.
2. Provision of sewage-disposal works for the houses, situated at Causey.

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### TOW LAW.

J. H. NAISMITH, M.D., Medical Officer of Health.

Area in Acres, 477.      Estimated Population, 1907, 4,371.

Birth-rate.	Death-rate.	Zymotic death-rate.	Infant mortality-rate.
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30.6	12.5	1.3	97
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Phthisis death-rate, 0.22.      Respiratory diseases death-rate, 2.51.

The birth-rate and the chief mortality rates, with the exception of the respiratory diseases death-rate, all show improvement. A large proportion of the deaths under the age of one year was due to bronchial troubles. Dr. Naismith calls attention to the

great necessity for careful treatment after an attack of measles or whooping cough in order to avoid these very fatal complications.

### INFECTIOUS DISEASES.

Seventeen cases, as compared with 22 in 1906, were notified, including four cases of diphtheria, three of scarlet fever and two of enteric fever. None of the cases terminated fatally. Dr. Naismith attributes the gradual improvement, as regards prevalence of infectious disease, which has taken place in the neighbourhood to the great improvement in the matter of paving yards, and in the abolition of insanitary privy middens. No mention is made in the report of the facilities for disinfection of houses, clothing, &c., nor is it stated to what extent the isolation hospital was made use of.

### GENERAL SANITATION.

The water supply from the Weardale and Consett Water Company is stated to have been plentiful and satisfactory. The sewage disposal works will shortly be completed, and the scavenging is reported to have been performed very satisfactorily. Dr. Naismith recommends that an advance should be made with some of the back streets which are still in a far from satisfactory condition. Referring to the housing accommodation, he says: "beyond improving what already exists, and keeping it all in "good order, I fail to see what more can be done in a district "such as ours." The slaughter-houses are reported to be clean, and the cowsheds to be "on the whole satisfactory." Four inspections were made of the one factory and one workshop and both were found to be in a satisfactory condition. The inspector reports that by the service of 41 informal and six formal notices, 44 nuisances were abated; that 12 new ashclosets were erected and that improvements with respect to drainage, spouting, and paving were made in 65 instances.

### SANITARY REQUIREMENTS.

Improvements to back streets.

## WHICKHAM.

ANDREW SMITH, M.D., Medical Officer of Health.

Area in Acres, 5,914.      Estimated Population, 1907, 15,686.

Birth-rate.	Death-rate.	Zymotic death-rate.	Infant mortality-rate.
36.3	17.5	2.8	138

Phthisis death-rate, 1.40.      Respiratory diseases death-rate, 3.12.

Dr. Smith considers that the estimated population given above is under estimated to the extent of nearly 2,000, the estimate of the district registrar based on the number of inhabited houses being 17,496, the same figure as last year. The vital statistics based upon the official estimate should be therefore liable to considerable correction, but for the purposes of comparison with the vital statistics of the administrative county they may be regarded as sufficiently accurate, as it may be safely assumed that the population of the whole county is likewise considerably under estimated.

The birth-rate and death-rate are both higher than in the previous year, the increase in the latter being attributed to severe epidemics of influenza and measles, which were general throughout the whole district during the first half of the year. The death-rate during the second half of the year was only 11.34 as compared with 22.31 in the previous half. Comparing the different areas, Swalwell had a very much higher death-rate, and, whilst doubtless the mortality in this area was considerably increased by the epidemic of measles and is perhaps stated at too high a figure because the population is probably under estimated to a greater extent than elsewhere, Dr. Smith considers that the Swalwell area compares unfavourably with the other parts of the district because of the unsatisfactory sanitary conditions obtaining there.

The infant mortality rate was 138 as compared with 162 in 1906. This improvement was due to the fact that diarrhoea was not prevalent to any extent, and the diminution in the number of fatal cases of diarrhoea more than compensated for the increased number of deaths from measles. Commenting at some length on

the high infant mortality, Dr. Smith points out that an improvement in sanitation alone will not alter this condition of affairs, and that before there can be much further improvement we must have healthy mothers rearing breast-fed children, and he says "When called to attend babies for any of these diseases our "prognosis depends most largely on whether they are breast-fed "or hand fed. We know that their chances of recovery are enor- "mously greater if they are breast-fed. If we could only increase "breast feeding amongst the poor English mothers up to the "level of what pertains amongst the Jews, we would, I am "convinced, soon see a great reduction of infantile mortality, and "we would have a stronger and hardier race of children. I "believe it can be done; it means rousing the mothers to a sense "of their moral responsibility, and creating a strong public "opinion in its favour. I believe this could be done by the "appointment of well-trained, tactful, and kindly disposed Lady "Health Visitors. I do not see why English mothers should not "be as competent to suckle their children as the Jews. If they "are not, we should find out the reason why. There are, no "doubt, certain factors which tell against the English mothers. "One regrets to say so, but they do not get the same special care "and attention as to rest and nourishment during their pregnancy. "Child bearing is not regularly considered so sacred as it should "be, and as it is with the Jews. Another factor one must "mention with even greater pain, the Jews are much more "temperate, as regards consumption of alcohol, than the English. "I am afraid, amongst the latter, alcoholism is, or until lately "has been, on the increase, and without any doubt at all, there is "much more alcohol consumed by women than there was 50 or "30 years ago. There is no greater cause, except perhaps "syphilis, of premature births, congenital defects, and defective "vitality at birth, than alcohol, and when we note the large "extent to which these figure as the causes of infant mortality, "we can realise the great part which it plays. Besides, it tends "very largely both directly and indirectly to diminish the capacity "for breast feeding."

## INFECTIOUS DISEASES.

The notifications numbered 62, which is 17 less than in the previous year and the most prevalent diseases were scarlet fever (29 cases) diphtheria (23 cases) and enteric fever (3 cases). The majority of these cases were in the Marley Hill and Dunston areas, only three being reported from Swalwell, the most insanitary part of the district. Scarlet fever was epidemic at Marley Hill. At the home of the first case notified another case was found in the convalescent peeling stage. The parents refused to permit isolation of the cases at the hospital and in consequence no less than six of the family contracted scarlet fever. As far as can be ascertained no other cases were infected by this family, but a month later there was a recrudescence of the disease and from a spot map it was evident that the cases had no direct connection with each other, but that there was an indirect connection at the new school, where some unknown case was spreading infection, so the school was closed, with the result that the epidemic promptly ceased. Diphtheria was prevalent to a less extent than usual, but some of the cases were very severe and a larger proportion than usual were of the laryngeal type. Three out of the 37 cases were fatal, but none of these cases were seen until a late stage of the disease, and in consequence antitoxin treatment was powerless. The three cases of enteric fever were all removed to the hospital, two of the patients contracting the disease outside the district and in one case the infection was almost certainly contracted from eating infected mussels. The origin of infection of the third case could not be determined. During the past six years the district has been remarkably free from measles and as a result there were a large number of unprotected individuals. The disease which was introduced into one of the schools at the beginning of the year spread rapidly throughout the whole district, a serious epidemic resulting, in spite of the precautions taken to prevent it. The school at Swalwell was closed in March, as also were the Church School and the Infants' Department of

the Council School at Dunston. It is stated that the epidemic, however, only ceased when all the susceptible individuals had been smitten with the disease. Later, the schools at Whickham and Marley Hill had to be closed, but it was not until the end of June that the district was nearly free from measles. The closure of the school at Whickham was only temporarily successful in checking the outbreak; after the summer holidays, a second outbreak occurred and the disease continued to be prevalent until all the unprotected children had been infected. Commenting upon this epidemic Dr. Smith says:—“The epidemic was of unusual severity, so much so that I was led to think that just as scarlet fever has assumed a character very much milder than what I was accustomed to in my early days of 30 years ago, so has measles assumed a greater virulence. Not only were the complications of bronchitis and broncho-pneumonia unusually numerous and severe, but there was an exceptional number of cases of true pneumonia, and apart from these, many of the patients were extremely ill, even without these complications, from profound toxæmia; they had high temperatures and extreme prostration for over a week. The mortality was accordingly heavy; altogether there were 25 deaths, being equal to a death-rate of 1.53, considerably higher than the county, 0.69, and the county average of 0.37.” Dr. Smith also draws attention to the favourable influence of good housing and good general sanitation upon the prognosis in this disease, for although children under healthy conditions are just as liable to severe attacks, they have a remarkably greater recuperative power. Whooping cough caused eight deaths during the year and attention is called to the fact that parents are quite reckless as regards spreading infection of the disease and that it would be highly desirable if more restrictions could be placed upon the removal from place to place of children suffering from this complaint during the infectious stage. Diarrhœa was not prevalent to any extent because of the cold wet summer. The district has had the services of the conjoint hospital at Norman’s Riding since Easter, and the smallpox hospital is available at Greenside.

## GENERAL SANITATION.

The water supply is stated to be ample and also excellent in quality. The whole district, with the exception of Marley Hill which uses water from the Weardale and Consett Water Company, is supplied by the Newcastle and Gateshead Company. Parts of the district requiring special attention have been specially visited by the members of the Council, and Dr. Smith states that considerable sanitary improvements are to be made, as a result of this survey. During the year, 57 ash-closets have been substituted for privy-middens and it is stated that now there are only 26 more of the latter insanitary conveniences in the whole district and that these will shortly be converted. Scavenging is reported to be efficiently carried out by the Council's own men. The drainage scheme for Whaggs, and Sunnside, with the exception of the part involving Whaggs Lane and Cornmoor Road, is reported to be completed and in working order. The open channels at Byermoor are shortly to be abolished, and Marley Hill is to properly sewer'd, and then the whole district will be drained throughout on modern methods. The report deals at considerable length with the house accommodation of the district and with over-crowding. It is stated that three to four-roomed houses are now the most prevailing type of house. Taking each township in detail, at Whickham it is mentioned that Whaggs Lane, Millfield Road and Cornmoor Road are to be made and that other streets (Duckpool Lane, Back Row and Pit Row) require similar attention. In Pit Row, four-roomed dwellings should be made by the conversion of two houses into one, and a still more necessary improvement is that the existing back street should be paved or cemented, and should be provided with trapped sinks and new out-offices. At Swalwell, improvements to the paving and conveniences of the houses at Brewery Bank are under consideration, but some insanitary houses in Hopper's Court and in Cook's Buildings have not yet been dealt with, with the exception of one house, which was closed by order of the magistrates. The neighbourhood of Quality Row, Birch Bank and Pit Bank is stated to have "an air of slovenliness and squalor," and Waterside, including Poorhouse Yard and Malting

Yard, is said to be over-crowded and even more squalid. A number of back-to-back houses which exist in this neighbourhood particularly require attention. At Dunston, the roads and back streets in the older parts such as Saddler Square, Stokoe Square, Atkinson Square, Chapel Street are stated to require making and paving.

From the report of the Inspector of Nuisances, which is appended, it appears that 1,001 nuisances were abated as a result of the service of 1,011 formal notices. All the dairies are reported to have a plentiful and excellent water supply laid on, with one exception, from the mains of the water companies. The cowsheds are registered and are regularly inspected. It is stated that most of the byres should have better ventilation and lighting. The slaughter-houses are still unregistered; but they are inspected regularly and it appears that they are satisfactory as regards cleanliness. From the table appended, it appears that the factories and workshops are inspected regularly and have been found to be satisfactory.

### SANITARY REQUIREMENTS.

1. Improvements to houses at Whickham and Swalwell.
2. Improvements to roads and back streets at Dunston.
3. Registration of the slaughter-houses.

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### WILLINGTON.

R. E. BROWN, L.R.C.P., Medical Officer of Health.

Area in Acres, 3,793.      Estimated Population, 1907, 7,949.

Birth-rate.	Death-rate.	Zymotic death-rate.	Infant mortality rate.
36.9	15.4	2.7	142

Phthisis death-rate, 0.50.      Respiratory diseases death-rate, 3.01.

The birth-rate was 36.9 as compared with 32.3 in the previous year, the increase being more marked in Willington than in the Stockley district. The death-rate decreased from 17.0 in 1906 to

15.4 per 1,000 population. The phthisis death-rate was diminished by one half, but the respiratory diseases death-rate was increased from 2.7 in 1906 to 3.0.

### INFECTIOUS DISEASES.

Fifty-five cases including 36 cases of scarlet fever, 6 cases of diphtheria, and 2 of enteric fever were notified during the year; 37 of these cases were removed for treatment to the Helmington Row Isolation Hospital. One of the cases of diphtheria occurred at a farm where the drains were defective, and the two cases of enteric fever resided in Nelson Street at the same house, the surroundings of which were found to be insanitary. Scarlet fever which threatened to become epidemic was checked by the prompt removal of the cases (all but one out of a total of 36 were removed) to the Helmington Row hospital, and by the disinfection of the bedding and houses. Measles accounted for six deaths in the Willington area, and three deaths in the Stockley area. The Willington schools were closed during the months of June and July because of the prevalence of this disease.

### GENERAL SANITATION.

The district is provided with a plentiful supply of good water by the Weardale and Consett Water Company. The sewage of Willington area is for the most part treated by Stoddart's continuous filtration method and satisfactory results are stated to be obtained. Some sewage also finds its way into the Willington Burn, and causes pollution of this stream. It is stated that a scheme for the purification of the Page Bank sewage, which at present discharges into the River Wear, is under consideration. Dr. Brown calls attention to the number of privy-middens in the district, and recommends that ashclosets should be substituted. He points out that with open ashpit-privies a considerable amount of fouling of the streets is unavoidable, and that "in hot weather "this fouled earth is no doubt largely the cause of zymotic disease "as diarrhoea, enteric fever and diphtheria." The removal of

refuse is reported to be done very satisfactorily as a rule. Once more the medical officer of health calls attention to the fouling of the main street by the emptying of the midden privy contents upon them, and he recommends that water closets or pail closets should be constructed when the premises do not give access to the scavenger's cart. From the brief remarks made by the medical officer of health on the houses inhabited by the working classes, it appears that the accommodation in the district is of an unsatisfactory character. Back-to-back houses are reported to exist in Commercial Street, High Street, Mill Street, Park Terrace and Low Willington, and at Page Bank Colliery. Some improvements to the back streets are noted in the report. As a result of 135 informal and 6 formal notices, 135 nuisances were abated during the year. Amongst other improvements noted, 24 ash-closets and one water-closet have been constructed in place of privy-middens, 21 yards have been repaved, 21 new houses have been constructed and plans for 68 more have been sanctioned, 300 yards of new sewerage have been laid and one back street has been made during the year. There are no common lodging-houses in the district. The six registered slaughter-houses are reported to be in a sanitary condition. The dairies are reported to be kept clean, but the cowsheds to be chiefly of old construction and to be badly lighted and ventilated. No mention is made of the water supply to the outlying dairy-farms. One hundred and eleven visits were paid by the Medical Officer of Health and Sanitary Inspector to the 27 workshops in the district, but no sanitary defects were found to exist.

#### SANITARY REQUIREMENTS.

1. The substitution of ash-closets for the old defective privy-middens.
2. The substitution of water closets and pails or buckets for dry refuse where contents of privy-middens have to be wheeled into the streets.
3. The repairing and paving of the footpath on the North side of the main street as soon as possible.

4. The making, paving and channelling of the private streets which are in a bad condition.

5. Improvement in the ventilation and lighting of the cow-sheds.

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## RURAL DISTRICTS.

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### AUCKLAND RURAL DISTRICT.

J. G. WILLIS, L.R.C.P., D.P.H., Medical Officer of Health.

Area in Acres, 57,334.      Estimated Population, 1907, 59,045.

Birth-rate.	Death-rate.	Zymotic death-rate.	Infant mortality-rate.
34.3	15.7	1.9	123

Phthisis death-rate, 0.86.      Respiratory diseases death-rate, 2.65.

There was a marked improvement this year in the zymotic death-rate and infantile mortality rate, the latter falling from 173 to 123. During the past year leaflets containing advice on the feeding of infants have been distributed by the Registrar of Births to the mothers.

### INFECTIOUS DISEASES.

The total notifications declined from 340 in 1906 to 280, the most prevalent diseases being scarlet fever, 150; enteric and continued fevers, 36; and diphtheria, 38. The scarlet fever cases were of a mild type, only six proving fatal. Enteric fever was not prevalent to any extent compared with the previous year, the most cases being notified from Coundon and Westerton. During the year 60 cases of infectious disease were removed to hospital. It appears from the reports of the inspectors of nuisances that 184 houses and 54 lots of infectious bedding were disinfected. During the year 19 schools were closed because of outbreaks of measles in 17 instances, and of scarlet fever in two instances.

## GENERAL SANITATION.

The greater portion of the district is reported to be supplied with a wholesome and sufficient water supply, but at Hamsterley during the summer there was a considerable shortage of water, and Dr. Willis recommends that a public supply should be laid on to the village. During the year plans were passed for 300 houses, as against 351 in the previous year. At Coundon, three additional filter beds for disposal of sewage are being laid down, and at Middlestone Moor new double contact beds are being erected. The plans for the Dene Beck scheme have not yet been passed by the Local Government Board. Schemes for the disposal of the sewage of St. Helen's, Fylands, Tindale Crescent, West Auckland, Byers Green, Toddhills, Hunwick, and Sunnybrow are under consideration. Complaints are made, both by Dr. Willis and the inspectors, of the way in which the scavenging is carried out in parts of the district, and attention is drawn to the fact that much of the inspectors' time was occupied in supervising the work of the contractors. There was an increasing difficulty in obtaining satisfactory tips, and the provision of a refuse destructor is again urged. There are, it is stated, 186 registered dairies and cowsheds. In the report of one of the inspectors mention is made that considerable alterations have been made in some of them, but that some still require to be improved as regards lighting, paving, ventilation and drainage. The slaughter-houses have been inspected and are reported to be in good order. There are two common lodging-houses in the district, which were subjected to periodical inspection and were found to be in a sanitary condition. Seventeen factories and 91 workshops and one workplace were inspected and no defects were discovered. The reports of the Inspectors of Nuisances are appended to the report of the Medical Officer of Health, and it appears that in No. 1 district 622 nuisances were abated as a result of the service of 405 informal and 286 formal notices, 80 ash-closets and three water-closets were erected in place of ashpit-privies, eight dwellings were dealt with under the Housing of the Working Classes Act, 1890, and closing orders granted in three cases. In No. 2 district 736

nuisances were abated in consequence of the service of 553 informal and 262 formal notices, and 86 ashpit-privies were replaced by 61 ash-closets and 25 water-closets. Under the Housing of the Working Classes Act, 1890, seven dwellings were dealt with, three of the houses being rendered habitable and two were permanently closed.

### SANITARY REQUIREMENTS.

1. The provision of a refuse destructor.
2. A public water supply to Hamsterley.

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## BARNARD CASTLE RURAL DISTRICT.

JAMES C. NELIGAN, L.R.C.S., Medical Officer of Health.

Area in Acres, 79,961. Estimated Population, 1907, 11,660.

Birth-rate. Death-rate. Zymotic death-rate. Infant mortality-rate.

23·6	15·2	0·6	130
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Phthisis death-rate, 0·77. Respiratory diseases death-rate, 1·28.

For the purposes of comparison this district is divided by Dr. Neligan into three areas. (1) Middleton district. (2) North Staindrop, which includes the parishes of Cockfield, Woodland, Langleydale, Wackerfield, Morton Tinmouth, Hilton, Raby, Keverston, and Ingleton. (3) South Staindrop district, which includes the parishes of Staindrop, Gainford, Headlam, Langton, Winston, Cleatlam, Whorlton, Westwick, Marwood, and Streatlam with Stainton. In the Middleton district the chief industries are agriculture, lead-mining and quarrying, in the North Staindrop district coal-mining and agriculture, and in the South Staindrop district agriculture.

Comparing the statistics of the districts thus divided Middleton has a death-rate of 16·7, and infant mortality-rate of 171·8, whilst the figures for North Staindrop and South Staindrop are 14·8 and 118·6, and 14·4 and 117 respectively. It is pointed out that the infant mortality-rate is very high and much in excess of the county-rate in the Middleton district. Dr. Neligan states in his

report "There is an increasing tendency amongst women of all "classes to shirk the duties of motherhood, and to hand over "their children to all the attendant risks of artificial feeding. "There can be no improvement in the infantile death-rate until "such mothers are induced to resume the old-fashioned but natural "nursing, or if that is impossible owing to ill-health or absence of "milk, then they should be instructed in the proper feeding and "care of their babies. In my experience another cause of high "infantile death-rate is the too-frequent child bearing of women "in the poorer classes. The wife of the poor working-man in "such circumstances is over-worked in body, and is worried in "mind by the care of an increasing family. She cannot get "sufficient rest to preserve her health, nor proper food to maintain "her strength, which is also probably reduced by over-lactation. "Such conditions in the mother account for too many, if not all, "of the deaths from premature birth, and congenital defects; and "those debilitated children who are brought into the world "defective in mind and body, without resisting power, are fore- "doomed to death."

### INFECTIOUS DISEASES.

The total number of notifications received during the year was 52. The most prevalent diseases were diphtheria (18), and scarlet fever (15). There were two cases of enteric fever, but the origin of the disease could not be traced in either case. The residences of the patients were visited and on the recommendation of the Medical Officer of Health the Council provided disinfectants for those unable to afford them. Measles was very prevalent in the autumn, on account of which the Medical Officer of Health advised the closure of schools at Stainton, Cockfield, Woodland, Egglestone, and Newbiggin. Four patients were treated at the isolation hospital during the year.

### GENERAL SANITATION.

Newbiggin will shortly be provided with a good, wholesome and sufficient water supply. The dwellings in Cleatlam Village

have been supplied by Lord Strathmore with water from the Tees Valley Water Board's main. In one of these houses two deaths from diphtheria occurred, and it was found that the occupants had been using badly polluted water from a pump in the yard. Owners of over 100 houses at Staindrop have been informed that they must provide a proper supply of water with a result that a few have made arrangements to do so. The medical officer of health recommends that the old earthenware water pipes at Middleton should be replaced by iron pipes. During the year nine new dwelling-houses were erected and 27 houses have been rendered habitable as a result of service of notices on the owners; defects in drainage at 49 houses have been made good; and the ventilation in back-to-back houses has been improved by making the windows to open top and bottom and by the removal of obstructions frequently found in bedroom fireplaces.

Dr. Neligan reports that the scavenging with the exception of the Cockfield and Woodland districts is done in a "casual and unsatisfactory manner." Privies and ash-pits are frequently allowed to become foul and offensive. A strong recommendation is made for the substitution of ash-closets for the privy-middens and for the undertaking of scavenging by the Council in the more thickly populous parts of the district. Forty-five notices were served for the abatement of nuisances caused by the accumulation of refuse, etc., and 38 nuisances due to insanitary conveniences were abated as a result of the serving of notices. Altogether 196 nuisances have been abated chiefly as a result of the service of informal notices. Sixty-four midden-privies were converted into ash-closets or water-closets. New sewage disposal works have been provided at Ingleton Village, and the west end of Hilton Village has been sewered and drained by Lord Barnard. The regulations relating to dairies, cowsheds, and milkshops are now in force. It is stated that some improvements in the cowsheds have been effected, but much remains to be done. Eleven slaughter-houses have been inspected and none of them were found to meet the requirements of the Local Government Board in accordance with the model bye-laws recently adopted. It has

been necessary to condemn one house at Middleton and one at Gainford. Some have already been put into order, and other owners have promised to carry out alterations and improvements. Fourteen factories and 38 workshops have been inspected and no defects were found. Common lodging-houses at Middleton and Staindrop are reported to be in a satisfactory condition.

### SANITARY REQUIREMENTS.

1. The earthenware pipes conveying the water-supply of Middleton to be replaced by iron pipes.
2. The abolition of all insanitary midden-privies.
3. The Council to adopt public scavenging in the more thickly populous parts of the district.

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### CHESTER-LE-STREET RURAL DISTRICT.

JOHN TAYLOR, M.D., D.P.H., Medical Officer  
of Health.

Area in Acres, 34,620.      Estimated Population, 1907, 72,911.

Birth-rate.	Death-rate.	Zymotic death-rate.	Infant mortality-rate.
34.7	16.4	1.5	148

Phthisis death-rate, 0.79.      Respiratory diseases death-rate, 2.64.

In the introduction to his report Dr. Taylor mentions that the report of Dr. Fletcher, one of the Medical Inspectors of the Local Government Board, on the sanitary state of the district, has been received by the Council, who have decided to carry out the recommendations made with the exception of the adoption of Part III. of the Housing of the Working Classes Act, 1890, the consideration of which has had to be postponed.

It is mentioned that the Council have resolved to adopt the Public Health Acts Amendment Act, 1907, and Dr. Taylor strongly recommends the adoption of the Notification of Births Act also. The population of the district has considerably increased during the past year. Ten of the townships show an increase, the greatest being in the townships of Chester-le-Street, Witton

Gilbert, Usworth and Lamesley. There has been a slight decrease in Burnmoor and Plawsworth due to the closing of insanitary houses. A large number of houses have been built, but only sufficient to serve for the accommodation of the newcomers entering the district. The marriage-rate for the year is 15.2 per thousand as compared with 15.5 last year. The birth-rate shows a considerable decrease being only 34.75 per thousand as compared with 36.52 per thousand last year: it is the lowest rate for the past decade and is 3.55 per thousand under the average for the past 10 years. The birth-rate was highest in the townships of Pelton (43.69), Usworth (40.76) and Birtley (40.75), and lowest in Lamesley (26.53) and Ouston (18.39). The death-rate is much the same as last year and is under the average for the past decade by 1.74 per thousand. The cold and wet weather during the year caused an unusual amount of disease of the respiratory organs, but did not favour the prevalence of diarrhoea. Deaths due to premature birth are still numerous, and Dr. Taylor draws attention to some of the probable causes of this excessive mortality. Owing to the lessened prevalence of diarrhoea on account of the cold summer, the infant mortality-rate shows a considerable diminution, being 148.3 per thousand as compared with the rate of 163 last year. In townships having a population of 2,000 and upwards the rates were highest in Pelton (201), Lumley Great (192), Edmondsley (168), and lowest in Usworth (90) and Washington (122). Dr. Taylor reviews the cause of the high infantile mortality and shows that, whilst the parent is often at fault, much of the high infant mortality must be attributed to the insanitary conditions of many houses in which the children are reared.

There were 58 deaths from phthisis as compared with 81 and 61 in the two previous years, and an average of 66 for the past 10 years. Dr. Taylor does not regard these figures as altogether satisfactory as they do not indicate the same rate of improvement as is occurring in the country as a whole. Even less improvement in the mortality from other tuberculous diseases has occurred. The report deals at some length with the various sources of infection

in consumption and other tuberculous diseases, and suggestions are made that steps should be taken to lessen the danger of infection through the consumption of milk and that a sanatorium should be provided. Dr. Taylor points out that a sanatorium can greatly benefit a district by disseminating a knowledge of the simple laws of health, by limiting to a certain extent the opportunities for the spread of infection, and by relieving the Poor Law Authority of a portion of its burden, and he thinks that, if it were possible to accurately estimate the value of these benefits, the construction of a sanatorium would be found to be a profitable undertaking.

### INFECTIOUS DISEASES.

The number of cases of infectious diseases notified was 498, or 14 more than in 1906. There was a marked decrease in the number of cases of enteric fever, and there was a slight increase in prevalence of diphtheria and scarlet fever. Scarlet fever was prevalent during the fourth quarter, more especially in Usworth Colliery, Waterloo, and New Washington. Dr. Taylor states that "the disease appeared to spread by the "contact of children at their home," and that "school-life was "not a factor in the spreading of the disease." At Usworth Colliery, which has been very free from the disease for quite ten years, there was a large number of susceptible children. The disease was of a very mild type, only two deaths being recorded, the case-mortality equalling 0.75 per cent. Measles was very prevalent and accounted for the closing of 24 schools in different districts during the year. Twenty-three cases of enteric fever were notified as compared with 65 in the previous year; the case-mortality was very low. In no instance could the origin of the infection be traced. During the year there were 128 cases of diphtheria notified as compared with 112 and 80 during the immediately preceding years; the case-mortality being 14.8 as compared with 25.8 last year. During the present year 470,000 units of serum were distributed to 19 medical men as compared with a distribution of 120,000 to seven doctors in 1906. Every

opportunity is given to the medical practitioners to avail themselves of the free use of the serum, and it is hoped that as the use of the serum becomes more general, the case-mortality may show a still further decrease. Whooping cough only caused four deaths as compared with 23 in the previous year. It is mentioned that the Council undertake the disinfection of houses wherein cases of diphtheria, enteric fever, and phthisis have occurred. Dr. Taylor again draws attention to the fact that the disinfection of schools where cases of infectious diseases have occurred should be undertaken by the Council. Certain of the schools also required to be improved in the matter of pavement of playgrounds and by the abolition of ashpit-privies.

### GENERAL SANITATION.

The district is well supplied with wholesome water, and it is recommended that the dairy farms of High, Middle, and Low Barmston, which are at present supplied by wells should be provided with a good water supply. Many of the houses in Birtley, Team Colliery, and Washington are reported to be without a water supply laid on into the house, and it is urged that taps should be immediately placed inside the houses. Attention is drawn to the fact that the water supply to Storey's Buildings and Furnace Farm, near Chester-le-Street, is very defective and is liable to pollution. It is stated that scavenging has been satisfactorily performed by the contractors during the year, but this work still calls for constant supervision on the part of the inspectors of nuisances, and Dr. Taylor recommends that in the more populous districts the Council should undertake the scavenging by its own staff. A considerable portion of the report deals with the sanitary improvements effected in the different townships. During the present year 592 ash-closets and 30 water-closets have been substituted for about the same number of ashpit-privies, many of which were in a semi-ruinous condition. Improvements of such a nature and to property have been made notably at Birtley, Pelton Fell, Edmondsley, and Witton Gilbert. It is mentioned

that the following improvements should be made without delay:—  
 (1) Houses at the Furnace, Chester-le-Street, should be drained ;  
 (2) In Chester-le-Street a number of old yards require to be cemented, and numerous ashpit-privies require converting ; (3) In Harraton, a number of old houses should be closed or reconstructed, and many ashpit-privies require to be abolished ; (4) In Lamesley, the part of Eighton Banks, near the Mount, requires to be sewered ; (5) In Great Lumley, the village requires to be re-sewered, and the Council has undertaken to recommend the treatment of the sewage ; (6) At Ouston, ashpit-privies should be converted ; (7) In Pelton, Club Row and its vicinities require to be sewered ; and (8) At Waldridge, several houses should be closed.

The dairies and cowsheds have been inspected and many of them are reported as being far from clean. Improvements are reported to be required in a common lodging-house at Birtley, and it is mentioned that bye-laws have been adopted by the Council respecting slaughter-houses, many of which require considerable improvement. During the year, 428 houses have been built and 84 have been closed. All the factories and workshops have been inspected and found to be in a sanitary condition.

### SANITARY REQUIREMENTS.

1. The adoption of the Notification of Births Act.
2. The adoption of Bye-laws respecting Tents, Vans, Sheds, and similar structures.
3. The construction of a Sanatorium for the treatment of phthisis.
4. The provision of a good water-supply to farms at Low Barmston, High Barmston, and Middle Barmston.
5. The undertaking of scavenging by the Council in the more populous areas.
6. The disinfection of schools, in which cases of infectious diseases have occurred, by the Council.

## DARLINGTON RURAL DISTRICT.

ROBERT H. MEIKLE, M.B., Medical Officer of Health.

Area in Acres, 42,019. Estimated Population, 1907, 9,591.

Birth-rate.	Death-rate.	Zymotic death-rate.	Infant mortality-rate.
28.4	19.4	0.4	102

Phthisis death-rate, 1.14.	Respiratory diseases death-rate, 2.71.
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The total death-rate compares unfavourably with the previous year and is high for a district which is largely agricultural. As in 1906, the death-rate was especially high in the first quarter of the year. The census figures of 1901 are still retained so that, as was remarked last year, the calculated death-rate is probably too high. Fifteen deaths occurred at the age of 80 years and upwards, the average age of these persons being 85. The infant mortality-rate compares favourably with previous years. Dr. Meikle recommends the Notification of Births and also "that instructions be given to "mothers by qualified persons at the expense of some public "body." The death-rate from phthisis was again slightly above the county rate. Dr. Meikle, as the result of his investigation of the 11 fatal cases, states "I find that in every case there is a "hereditary tendency and I am of the opinion that if many of "such cases were removed to a sanatorium where the hygienic "conditions are good, many lives might be saved, and further, "other members of the family would not run the risk of direct "infection."

## INFECTIOUS DISEASES.

The 42 notifications, as compared with 30 in 1906, included 13 of scarlet fever, 11 of diphtheria and 7 of enteric fever. Three cases of enteric fever and two of diphtheria were isolated at Darlington Borough Hospital. Dr. Meikle again expresses the opinion that more advantage would be taken of the privilege of using the hospital if the fees for the treatment of patients were lowered. Four cases of enteric fever occurred at Heighington Station, and they were found to have arisen from a contaminated water supply and defective drainage. Six deaths resulted from

this disease. At the Rectory Farm, Sadberge, where four cases of diphtheria occurred, insanitary conditions were found for the removal of which recommendations have been made. Measles was prevalent throughout the whole district during the latter part of the year and was the cause of the closure of the majority of the schools.

### GENERAL SANITATION.

Of 20 samples of water, for the most part farm water supplies, submitted for analysis, 17 were found to be unwholesome. The defective conditions have been remedied in 11 instances by, in the majority of cases, laying on a supply from the mains of the Tees Valley Water Board, and the remainder are receiving attention. New sewage disposal works are in course of completion at Blackwell, the present beds being over-worked and yielding an unsatisfactory effluent. The effluent from Haughton-le-Skerne is also reported to be unsatisfactory. A sewage disposal scheme for Houghton-le-Side is under consideration, as at present the drainage passes into an open ditch, which in hot weather is stated to become extremely "foul and dangerous." During the year, plans for 101 new houses and two estate plans have been sanctioned. The report deals separately with the various localities, but makes no mention of there being any insanitary property. It is recommended that the streets at Harrowgate Hill should be made and paved as the houses are completed, and that the back streets in Middleton-St.-George should have the same attention, as also the back street of Brusselton Houses, which should at the same time be widened. The scavenging is reported to have been performed satisfactorily throughout the district. The dairies and cowsheds have been thoroughly inspected this year, and a good many improvements with respect to drainage, ventilation and air space are stated to have been effected. Referring to the milk supply, Dr. Meikle says:—"I again urge the necessity of having collecting "centres for Rural Districts where the milk from time to time "would be subject to bacteriological examination. I should also "recommend that when a person is registered as a milk seller he

"should be able to produce certificates testifying as to the sanitary condition of his dairy and cowbyre, and also as to the healthy condition of his cows, and that if any cow is known to be suffering from any infectious disease it should be at once isolated and its milk destroyed." The report states that a large number of sanitary improvements have been made during the year, and 77 notices appear to have been served respecting nuisances and sanitary defects. The factory and workshops are stated to have been inspected and the defects found to have been remedied. The tabulated statement required to be filled up by the Home Office as to action taken under the Factory and Workshop Act is not appended to the report.

### SANITARY REQUIREMENTS.

1. The making and paving of all the streets in Harrowgate Hill as soon as they are completed.
2. The paving of the back streets at Middleton-St.-George and the widening and paving of the back street at Brusselton Houses.
3. Provision of centres for collecting the milk in Rural Districts.

### DURHAM RURAL DISTRICT.

A. T. HARRISON, L.S.A., Medical Officer of Health.

Area in Acres, 31,053. Estimated Population, 1907, 28,568.

Birth-rate. Death-rate. Zymotic death-rate. Infant mortality-rate.

32.6	17.7	2.4	143
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Phthisis death-rate, 1.08. Respiratory diseases death-rate, 2.73.

The chief mortality statistics with the exception of the respiratory diseases death-rate compare unfavourably with the county rates. Dr. Harrison states that the population is under-estimated as there was a considerable increase during the latter half of the year in the number of inhabited houses at Bowburn, and in the Cassop, Quarrington, and Coxhoe localities, so that the death-rate is lower than it appears.

## INFECTIOUS DISEASES.

Only 79 cases were notified this year as compared with 192 in 1906, and 240, 192, and 239 in the three preceding years. Fifty per cent. of the cases, as compared with 35 per cent. in 1906, were treated at the isolation hospital. Commenting on the lessened prevalence of infectious diseases, associated so strikingly with the more general isolation of the infected, Dr. Harrison says "It is thus seen that the great decrease in the prevalence of "infectious disease during the present year is strikingly associated "with a great increase in the number of cases isolated in hospital. "Every case of infectious disease has been promptly visited on "notification and many a combat entered into with the lack of "appreciation of the value of hospital isolation, and, let it be "added, with the inopportune excess of regard for their children, "on the part of the relatives in such cases. In the end, however, "the great majority yielded to their better judgment, and must "receive due credit for their share in the prevention of the spread "of infectious disease." Twenty-nine cases of diphtheria were notified, of which five cases, all treated at home, ended fatally. Neither scarlet fever (24 cases) nor enteric fever (14 cases) were unduly prevalent. Premises have been disinfected and it is stated that "a plan for the more expeditious removal to hospital of cases "of infectious disease, and for the removal of clothing, etc., to "the steam disinfecter at Houghall, is at present under the con- "sideration of the Council." A severe epidemic of measles occurred in the district during the year; Sherburn Hill was first affected in the early part of February, later, the disease was very prevalent in the localities of Belmont, Coxhoe, Kimblesworth, Sunderland Bridge, Cassop-cum-Quarrington, Framwellgate Moor, Pittington, and Broom. Forty deaths, as compared with an average of eight or nine, were attributed to the disease. Dr. Harrison draws attention to the extreme importance of protecting young children (under three years of age) from infection because the older the child the less likelihood is there of the disease terminating fatally. The death-rate from whooping cough was exceptionally low, being only 0.03 per 1,000. Diarrhoea was less

fatal than usual on account of the cold summer. In addition to improving the sanitary conditions of the district, Dr. Harrison recommends the teaching of domestic and elementary general hygiene in schools, and also the adoption of the Notification of Births Act and the appointment of a health visitor.

### GENERAL SANITATION.

Considerable improvements have been made during the year to the water-supply of the district. With the exception of Old Cassop, Quarrington Hill, Cassop Colliery, and Kelloe, which are supplied by Messrs. Walter Scott and Company, the greater part of the district is served by the Weardale and Consett Water Company. The following farm and outlying groups of houses, formerly dependent upon polluted shallow well, had a water-supply laid on; houses at Coxhoe Hall and Coxhoe Square, Lambs Close Farm (Cassop-cum-Quarrington), Farewell Hall (two farms), Stockley Heugh Farm, Stotgate Farm, two farms at Whitwell, Whitwell Moor Farm, and Running Waters. It is stated that Sherburn Village will at an early date be supplied by the Weardale and Consett Water Company, and that the present supply of "dangerous surface spring-water" will then be discontinued. New water supplies are under consideration for the following places:—Old Quarrington, the water-supply of which is at present seriously contaminated, Butcher Race (a farm and some cottages), High Grange Farm and East Farm at Gilesgate Moor, Stone Bridge Mill Farm, Brasside (30 cottages), Cassop Smithy Farm, and Strawberry Hill Farm. Where water mains are within a reasonable distance notice has been served on the owners of the premises mentioned above; in the case of East Farm, a dairy farm at present supplied by a highly-contaminated shallow well, the surveyor has been instructed to do the work in default and to recover the cost. At Sherburn Village a new outfall sewer and sewage disposal works, consisting of open septic tanks and continuous filters with automatic revolving sprinklers have been constructed. New sewers have been constructed at Sherburn Hill, and it is stated that schemes for sewage disposal are either

in hand or under consideration for the following places:—Shadforth, Sherburn Hill, Bowburn, High Pittington, Kimblesworth, Pity Me, and Crossgate Moor. The scheme for Bearpark Village has been delayed owing to the difficulty of obtaining land. Various becks are reported to be polluted with sewage from the following places:—East Hetton and California, Ludworth, Shadforth, Sherburn and Sherburn House, Littletown, and Low Pittington; and marked pollution of the River Browney is stated to be caused by the sewage from Bearpark and Crossgate Moor. The scavenging is stated in the Inspector's report, which is appended, to have been fairly well carried out. Dr. Harrison recommends that the scavenging at Shincliffe should be put out to contract. At present at this village, as also at St. Oswald's, Whitwell, and Brancepeth, the scavenging is undertaken by the occupiers. The housing accommodation is stated to be quite satisfactory, except in the parts east of Durham and at Framwellgate Moor. During the year plans for 22 new streets and 290 new dwelling-houses have been passed. At Bowburn, 96 four-roomed houses have been erected for the accommodation of workers in the new mine. Attention is drawn to the insufficiency of space about houses at Kelloe, Pittington, and Framwellgate Moor, and also to the condition of the private streets in Ushaw Moor and Neville's Cross. Improvements to the streets at the latter places will be made shortly, the sanction of the Local Government Board to the adoption of the Private Street Works Act, 1892, having been recently obtained. Under the Housing of the Working Classes Act, three actions, in respect of 28 houses, were taken with the result that one house at Hett has been re-built, 10 houses at East Hetton (4 in Plantation Row and 6 in Main street) were closed, and 17 houses at Heysham Terrace, East Hetton, are being re-constructed. In addition, the following improvements are reported:—At Quarry Row, East Hetton, 12 houses have been raised and provided with wash-houses and new conveniences; at Back Double Row, Quarrington Hill, the row of 35 houses is being converted into four-roomed dwellings, and ash-closets are being constructed, and in the

majority of cases the yards are being paved with concrete; 6 houses at Pittington, 3 at Broomside, 45 at Broompark, and the houses in Cater House Row, Pity Me, have been improved by the substitution of ash-closets for privy-middens, and in respect to paving, etc.; at Framwellgate Moor, two streets have been paved, and at Bearpark 273 ash-closets have been, or are to be shortly, substituted for privy-middens. Bye-laws with reference to dairies, cowsheds, and milk-shops have been adopted. Particular attention has been paid to the water-supply, and in 14 cases, where the supply is not good, attempts are being made to remedy the deficiencies. Two milk vendors have been removed from the register this year. A copy of directions dealing with the cleansing of cowsheds, cows, and the hands of the milkers has been distributed by the Inspector of Nuisances to all the cow-keepers. The slaughter-houses are stated to be regularly inspected, and to be "on the whole kept in good sanitary condition." There are no common lodging-houses in the district. The factories, workshops, and work-places were inspected on 62 occasions; four factories were found defective in respect to—ventilation (1), water-supply (2), conveniences for both sexes (1). These defects have been remedied as a result of the service of notices. During the year 661 notices have been served with the result that 304 nuisances have been abated. Appended to Dr. Harrison's report is the report of the surveyor which contains details concerning the water-supply, sewerage, and sewage disposal of the district.

### SANITARY REQUIREMENTS.

1. The erection of public abattoirs.
2. A periodical veterinary inspection of cows.
3. More space about houses at Kelloe, Pittington and Framwellgate Moor, and an improvement in the private streets at Ushaw Moor and Neville's Cross.
4. The adoption of the Notification of Births Act and the appointment of a Health Visitor.
5. The scavenging of Shincliffe by contract.

## EASINGTON RURAL DISTRICT.

JAMES ARTHUR, L.R.C.P., D.P.H., Medical Officer  
of Health.

Area in Acres, 37,018.	Estimated Population, 1907, 52,336.		
Birth-rate.	Death-rate.	Zymotic death-rate.	Infant mortality-rate.
34.5	17.5	2.5	162

Phthisis death-rate, 0.76.      Respiratory diseases death-rate, 2.80.

The birth-rate is considerably lower, being 34.5 as against an average of 37.1 for the past seven years. It was lowest in the agricultural districts such as Castle Eden (26.6) and highest at Shotton (39.3). The death-rate is the lowest on record, in spite of the high mortality from measles and whooping cough. The infant mortality-rate remains excessively high, although comparatively few deaths are recorded from diarrhoea.

## INFECTIOUS DISEASES.

Five hundred and eight cases were notified during the year, including 297 of scarlet fever, 116 of diphtheria and 31 of enteric and continued fevers. The district was comparatively free from scarlet fever until the last quarter, when a large number of cases occurred in the localities of Shotton, Haswell and Thornley. Not a single case occurred at Murton during the year. Dr. Arthur states that an attempt to check the outbreak at Shotton by removal of as many cases as possible to the isolation hospital proved abortive. He states that "the promiscuous mixing in "infected houses makes any attempt at its extinction hopeless." From the table given in the report it appears that the incidence of diphtheria has increased to a serious extent during the past eight years. The figures for the present year, 111 as compared with 85 in 1906, are the highest on record, and the case-mortality while varying considerably appears to have been very high in certain localities. No comment is made in the report on this high case-mortality and it is not mentioned that any attempt is being made to lessen the mortality by the free distribution of antitoxin to necessitous cases. In 15 out of the 90 households affected two

or more members became infected. In a considerable number of instances insanitary conditions prevailed in the houses affected. Enteric fever was much less prevalent during the autumn months than usual, probably on account of the climatic conditions. There was little evidence of direct infection, and the 23 cases occurred in 20 different houses, but a larger proportion of the cases than usual are stated to have occurred in dirty houses. Two cases were imported and in no instance could the infection be attributed to the pollution of the water or milk supply. Measles appeared in epidemic form at Seaham and Wingate, and from these centres spread all over the county. A number of deaths occurred chiefly from pulmonary sequelæ. Many of the schools had to be closed on account of the epidemic.

#### GENERAL SANITATION.

Horden Colliery has been provided with a public water supply and a new supply to Shotton Colliery from and Sunderland and South Shields Water Company has been laid on. Negotiations are in progress to augment the supply to South Hetton and four farms which have been found to have polluted water supplies are being dealt with. New sewage disposal works for Murton, Cold Hesleden, Castle Eden, Trimdon Foundry and Deaf Hill are reported to be working satisfactorily. New works are in progress for the northern half of Haswell Village and schemes for the villages of South Hetton and Easington are under consideration, as also extensions of the filters for the villages of Thornley and Wheatley Hill. During the year, 6,070 yards of new sewers, chiefly in connection with the new sewage disposal works mentioned above, have been constructed. Plans for 351 new houses have been passed, including 84 for the Shotton Colliery Company and 145 for the Horden Colliery Company, all of a good type. Amongst other improvements mentioned in the report, 60 houses have been re-built at Thornley, 127 ashpit-privies have been converted into ash-closets at Seaham and 25 at Trimdon Foundry, and new conveniences have been constructed at Castle Eden Foundry. During the year 10 notices were served on the

owners of 34 houses and as a result considerable improvements have been effected in 24 instances. The report states that "Pressed on one hand by insanitary conditions that demanded improvement, and on the other hand by the demand for housing accommodation, particularly in localities where for the time occupation for workmen is afforded by developing industries, your Council have adopted the practice of issuing notices and holding them in abeyance on condition that works of repair are being carried out . . . At Shotton Colliery village a large number of houses that have been unoccupied for years are being put into habitable repair under conditions that have occasioned your Council much trouble and anxiety. A period was given the owner to put the houses into proper repair, during the course of which time your Inspector had to report monthly on the amount of improvement made. Although at the end of that time the improvement was not of the amount demanded, the progress in that direction was such that your Council considered an extension of time justified, and the result has been certainly an increase of housing accommodation as good probably as can be afforded by repaired old property. The work of improving these houses is still under the observation of your officers." The scavenging is undertaken by contract and is reported to be "fairly well done," except at Thornley and Hesleden where action had to be taken against the contractors. Dr. Arthur in complaining also of the amount of supervision the drains require on account of the careless habits of the inhabitants, says:—"When the public are educated to recognise their duties in co-operating with your efforts for their benefit, the sanitary defects of the district will be much ameliorated. I refer particularly to the careless deposit of ashes and refuse outside ashpits, allowing children to defaecate anywhere at their pleasure, and, worst of all, throwing slops on to footpaths. A few prosecutions for these violations of the bye-laws would act more powerfully than copious posting of notices." There are three common lodging-houses in the district, and action was taken against one of the keepers for improper management and the insanitary condition of the house.

The general condition of the cowsheds in the district is stated to be improving. Notices were served upon two cowkeepers to remedy improper conditions of their cowsheds and the application of two cow-keepers to be registered was refused on account of the defective state of their premises. The factories and workshops are stated to be regularly inspected and to be satisfactory, and there are altogether 13 factories, 86 workshops, 17 workplaces and one bakehouse on the register.

### SANITARY REQUIREMENTS.

None mentioned.

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## HARTLEPOOL RURAL DISTRICT.

T. G. AINSLEY, M.D., Medical Officer of Health.

Area in Acres, 19,090. Estimated Population, 1907, 2,355.

Birth-rate.	Death-rate.	Zymotic death-rate.	Infant mortality-rate.
18.6	14.4	0.4	113

Phthisis death-rate, nil. Respiratory diseases death-rate, 2.54.

There is an increase of 50 in the number of inmates in the workhouse, but otherwise the population is not estimated to have increased during the year. There were 44 births registered, being at the rate of 18.6 per thousand as compared with 26.8 last year. There were 34 deaths, giving a death-rate of 14.4 per thousand. Dr. Ainsley states that "the rate gives little idea of "the mortality of the district, as out of 34 deaths the extraordinary "proportion of eight were from accidents and four from premature "birth, babies who died within 48 hours from the time of their "birth. If these two causes were excluded the rate would be "reduced to the very low mortality of eight per thousand per "annum." There were five deaths under the age of one year making the infant mortality-rate 113 per thousand births.

### INFECTIOUS DISEASES.

There was only one case of enteric fever and one case of scarlet fever notified during the year. The case of enteric fever

was imported. Measles was very prevalent in all parts of the district during the spring months, and the schools at Hart and Elwick Hall were closed for three weeks in consequence. The disease was of a mild type and there were no deaths.

### GENERAL SANITATION.

Samples of water have been taken for analysis and have "on the whole been found satisfactory." The main drain at Greatham is reported as requiring constant attention to keep it in a satisfactory state. It has been improved this year by the construction of a manhole and ventilator. It requires constant flushing and a flushing van is necessary. Dr. Ainsley reports a general improvement in the condition of the milk farms in the district, as a result of the systematic inspection to which they have been subjected. Notices have been served on certain owners requiring them to carry out structural improvements to their cowsheds. It is stated in the Inspector's report that 26 informal and eight formal notices have been served, and that in 26 instances the conditions complained of have been remedied. Under the Factory and Workshops Act, 54 inspections were made and a few defects were found which were remedied in response to notices.

### SANITARY REQUIREMENTS.

A flushing van for cleaning out the main sewer at Greatham.

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## HOUGHTON RURAL DISTRICT.

(Northern Division).

D. S. PARK, F.R.C.S., Medical Officer of Health.

Area in Acres, 8,398.      Estimated Population, 1907, 16,830.

Birth-rate.	Death-rate.	Zymotic death-rate.	Infant mortality-rate.
38.1	16.7	0.8	163

Phthisis death-rate, 0.77.      Respiratory diseases death-rate, 3.68.

The birth-rate is maintained at a high figure, being 38.1 as compared with 38.4 in 1906. Considering that diarrhoea was not

prevalent to any extent, the infant mortality-rate was unusually high, being 163 as compared with 145 in 1906. From table V of the report it appears that of 105 deaths occurring under one year of age, 35 occurred within the first week and 45 within the first month. Thirty-eight of the infant deaths were caused by atrophy, debility, or marasmus. A special report dealing with the infant mortality-rate of this district which Dr. Park issued to the District Council on September 5th, 1907, is included by him in his annual report. In this special report Dr. Park makes the following observations:—"There can be "no question that many causes are more or less responsible for "our high infant mortality. It is quite evident from the large "number of deaths certified every year as due to debility from "birth, that the offspring of the mothers of to-day are weaker "and less able to resist disease than the offspring of the mothers "of a former age. While these and other causes undoubtedly "contribute to our high infant mortality, there can be no question, "I think, that carelessness and lack of knowledge on the part of "the mother as to the proper feeding and clothing and general "management of infants and young people is chiefly responsible "for the excessive infant mortality." He also mentions that in the last 10 years only two children had died under the age of one month out of 44 born at the workhouse, one was still-born and the other died from convulsions. He concludes that "Girls should "be instructed at school as to the proper feeding and clothing and "general management of infants and young children, and Lady "Inspectors should be appointed to assist in this work at the "homes of the mothers. If these recommendations are carried "out they would meet with the same success as is experienced in "other places where Lady Visitors have been appointed, and soon "our high infant mortality would become a thing of the past."

### INFECTIOUS DISEASES.

One hundred and three cases were notified as compared with 88 in the previous year. Scarlet fever was of a mild type, and Dr. Park is of opinion that the usual causes of the spread of the

disease were "indiscriminate visiting at infected houses, and a "disregard of all precautionary measures." He mentions that in two cases "the children were peeling and attending school before "the disease was recognised or even suspected, with the result "that the infection spread to other children." There was a slight increase in the number of cases of diphtheria. The source of infection of the cases could not be discovered. Dr. Park recommends once more that the Council should provide antitoxin to the medical attendant free of charge. Cases of enteric fever occurred in most parts of the district, but no very noticeable defects of sanitation could be discovered in the houses in which the cases occurred. Dr. Park points out that the large proportion of males to females, namely nine to three, is still a feature of the disease in this district. Measles was reported as being prevalent in the district from July to October and was the cause of six deaths. It is stated in the report that there is still an unwillingness on the part of the inhabitants to avail themselves of the use of the infectious diseases hospital, and as a result the sick and healthy are to be found sharing the same room in many households, and practically nothing is done to safeguard the other members of the family or to prevent the infection from spreading. It also appears that the inhabitants do not avail themselves of the portable disinfecting apparatus to the extent that is desirable for only five lots of bedding are mentioned as having been disinfected by this means.

### GENERAL SANITATION.

It is stated that the district was well supplied with water. A substantial increase is promised in the quantity of water available for Herrington, Philadelphia, Penshaw, and Shiney Row. No analyses of the drinking water have been made this year as there has been no reason to suspect its purity. Plans for 360 new houses were passed during the year, 79 of which were in place of houses that had been demolished by the owners, the Lambton Collieries Company, who have made extensive improvements to their property in the district. One hundred and thirty new

houses have altogether been built by the company during the year. The new streets at Penshaw are stated to be still in the same deplorable condition as last year and steps are being taken to adopt the Private Streets Works Act, 1892, so that pressure may be brought to bear upon the owners of the private streets. Dr. Park recommends that the Council should in future insist upon the roads being properly made before allowing new houses to be inhabited. Sewers at George Street and Railway Terrace, New Herrington, have been re-laid, and a new sewer has been laid down at Grasswell building estate and at Dubmire building estate. The new filtering tank and sewer have been completed at the Silksworth building estate. Scavenging is reported to have been fairly well done but occasionally required supervision on the part of the inspector. There are 38 registered cow-keepers in the district, and some of the cowsheds have been improved, as a result of recommendations made to the owners. The report contains some useful advice to cow-keepers and dairymen on the selection, housing, and feeding of cows, and on cleanliness of premises generally. Nine factories and workshops are mentioned as having been inspected and found to meet the requirements of the Act.

#### SANITARY REQUIREMENTS.

1. The District Council should supply diphtheria antitoxin for necessitous cases.
2. In new streets the roads should be properly made before the houses are allowed to be occupied.

#### HOUGHTON RURAL DISTRICT.

(Southern Division).

J. R. SUTHERLAND, L.R.C.P., Medical Officer of Health.

Area in Acres, 4,794.      Estimated Population, 1907, 4,824.

Birth-rate.      Death-rate.      Zymotic death-rate.      Infant mortality-rate.

34.4      14.5      1.0      120

Phthisis death-rate, 0.82.      Respiratory diseases death-rate, 2.90.

The census figures for 1901 are reverted to for the population on account of the number of empty houses in Middle Rainton. The chief mortality statistics all show considerable improvement. It is stated in the report that the appointment of a Lady Health Visitor has been discussed and that it was agreed to postpone consideration of the matter for six months. In the meantime, cards with printed instructions as to the feeding and management of the children have been distributed by the Registrar to the parents, and it is hoped in this way to reduce somewhat the high infant mortality-rate, which has prevailed in this district.

### INFECTIOUS DISEASES.

There were 26 notifications, which included 11 cases of scarlet fever, 6 of diphtheria, and 1 of enteric fever. Ten of the cases were notified from the West Rainton district. Only five cases were removed to the infectious disease hospital. At Moorsley there was a small outbreak of scarlet fever of mild type. Dr. Sutherland states that the parents objected to send their children to the hospital, and that, in consequence, infection in most instances was communicated by direct contact.

### GENERAL SANITATION.

The district has been well supplied with water by the Wear-dale and Shildon Water Company, except at Moorsley where a reservoir, into which water from a local spring is pumped, supplies the needs of the neighbourhood. Few improvements are reported as having occurred in the district. Referring to Middle Rainton Dr. Sutherland says—“ It is becoming more and more a wreck as far as the interior is concerned. The three rows forming the triangular-shaped village contains many good houses, if they were kept in good repair, but many are neglected. I am told the owners have a difficulty in many cases in getting their rents paid, and, in consequence, are reluctant to spend money in keeping their property in good repair. Much of the insanitary conditions in Middle Rainton are mainly due to the dirty and idle habits of the inhabitants.”

In the report of the Inspector of Nuisances it is mentioned that notices have been served in three instances on account of the foul and dirty conditions of the dwelling, and in two instances on account of overcrowding. He reports that five out of 14 cowsheds in the district possess inadequate accommodation, and that notices to that effect have been served upon the owners. At Middle Rainton 36 notices were served upon the owners of property, and, as a result, some of the houses were voluntarily closed and others have been repaired. At Pit House Lane and Milk and Water Row some houses have been closed and others have been put in a state of repair. Scavenging is reported to have been on the whole well attended to. There are seven registered slaughter-houses, which have been systematically inspected and are reported to be satisfactory. There is only one workshop in the district, which is kept in good order.

#### SANITARY REQUIREMENTS.

None mentioned.

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### LANCHESTER RURAL DISTRICT.

(Lanchester Division).

J. WILSON, M.D., Medical Officer of Health.

Area in Acres, 29,949. Estimated Population, 1907, 22,114.

Birth-rate.	Death-rate.	Zymotic death-rate.	Infant mortality-rate.
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33.8	14.2	2.0	133
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Phthisis death-rate, 0.90. Respiratory diseases death-rate, 3.34.

There was a marked decline in the birth-rate from 39.5 in 1906, whilst the chief mortality-rates are all lower than in the previous year with the exception of the respiratory diseases death-rate.

#### INFECTIOUS DISEASES.

The total cases notified numbered 64, a slight decrease on the previous year. Scarlet fever was the most prevalent disease (22

cases, one of which proved fatal). There were three cases of enteric fever at Langley Park and six at Craghead, three of the latter cases being children belonging to the same family. The homes of the patients were visited, but no sanitary defects to account for the disease could be found. All the cases were admitted into Langley Park Hospital. From table III. it appears that there were 15 cases of diphtheria (including membranous croup), but Dr. Wilson in his report states that "nine cases of "diphtheria were notified and seven deaths returned." No comment is made on this exceptionally high mortality and the report does not state whether the Council provide antitoxin free to necessitous cases. Measles appeared in epidemic form at Hamsteels Colliery, Cornsay Colliery, Burnhope and Craghead, and 806 cases (628 more than last year) were reported and 21 ended fatally. In consequence of the epidemic the Infants' Department of the Hamsteels School was closed for two weeks in September, Craghead School was closed from 12th October until 2nd November, and the Council and Roman Catholic Schools at Cornsay Colliery were closed from 18th October until 2nd November. Diarrhœa was very prevalent in the early summer at Burnhope.

#### GENERAL SANITATION.

The whole district is stated to be well supplied with water by the Weardale and Consett Water Company. Improvements to houses are noted as having been made at Hedley Fell Cottages, Quebec, Newhouse Cottages, Esh Winning and Burnhope. Improvements are urgently needed to houses, yards and conveniences at East Hedley Hope, Hedley Fell Cottages, South View (Cornsay Colliery), Marley Houses, and Esh Winning. The sanitary condition of Cornsay Village, Cornsay Alms Houses, Hamsteels Colliery, Esh, Langley Park, Craghead, The Middles and Lanchester is reported to be on the whole satisfactory. It is recommended that steps should be taken to bring about the closure of the huts at Ushaw Moor Colliery and at Malton Colliery and of all cottages in the Blue Bell Yard,

Lanchester. The cowsheds in the district are periodically inspected and are reported to be on the whole well lighted and ventilated. There are 55 registered cow-keepers in the district. It is mentioned that there is one common lodging-house in the district which does not however appear to have been systematically inspected. Six hundred and eighty cases of nuisances and structural defects have been dealt with, and 36 new ash-closets were built in place of insanitary privy-middens during the year.

#### SANITARY REQUIREMENTS.

1. The closure of the huts at Ushaw Moor Colliery and at Malton Colliery and of all the cottages in the Blue Bell Yard, Lanchester.
2. Improvements to houses, yards and conveniences at East Hedley Hope, Hedley Fell Cottages, South View (Cornsay Colliery), Marleys Houses and Esh Winning.

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#### LANCHESTER RURAL DISTRICT.

(Medomsley Division).

W. T. BOLTON, L.R.C.P., Medical Officer of Health.

Area in Acres, 21,193. Estimated Population, 1907, 8,815.

Birth-rate. Death-rate. Zymotic death-rate. Infant mortality-rate.

27.4	15.8	1.7	178
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Phthisis death-rate, 1.24. Respiratory diseases death-rate, 3.06.

The death-rate shows an increase, being 15.8 as compared with 12.7 in 1906, and the infant mortality is again far too high. No comment is made in the report upon the high infant mortality which has prevailed in this district, but it would appear from table V. that in the present year marasmus, pneumonia, and premature birth are the three diseases chiefly responsible.

#### INFECTIOUS DISEASES.

Thirty cases of infectious disease were notified. There were 16 cases of scarlet fever and seven of diphtheria. More than half the cases (16) were removed to the hospital for treatment.

## GENERAL SANITATION.

Dr. Bolton makes the following brief general remarks on his district—"The Western District of the Lanchester Rural District "Council is generally in a fair sanitary condition, the several "places are well provided with sewers and sewage disposal works, "in the majority of cases the system of purification is by land "irrigation. The whole of the district is well supplied with water "for domestic purposes. The cowsheds, dairies, slaughter-houses, "factories, and workshops have been systematically inspected, and "generally found in a fairly good condition structurally. Many of "the cowsheds ought to be more frequently washed with lime, "and the filth, etc., removed from the premises. The scavenging "is well carried out. The sewers are frequently flushed and in "good working order." He also recommends that the insanitary privy-middens at Hamsteels Colliery should be replaced by ash-closets, and that certain houses and yards in Delves Terrace and in Templeton Village, which are at present damp and insanitary, should receive attention. The report states that 337 nuisances were dealt with, and, as a result, 297 have been abated. Sixty-seven new dwelling-houses were erected, and 17 ash-closets have been built during the present year.

## SANITARY REQUIREMENTS.

1. All insanitary privy-middens at Hamsteels Colliery should be replaced by ash-closets.
2. A better approach should be provided to Riverside houses.
3. The cowsheds should be kept cleaner and be more frequently lime-washed.
4. The District Council should insist on the making the back streets of many of the villages.

## SEDGEFIELD RURAL DISTRICT.

FREDERICK HUNTON, M.D., Medical Officer of Health.

Area in Acres, 45,006. Estimated Population, 1907, 28,211.

Birth-rate. Death-rate. Zymotic death-rate. Infant mortality-rate.

33.4	14.6	1.5	153
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Phthisis death-rate, 0.67. Respiratory diseases death-rate, 2.23.

There is again an estimated increase of over 2,000 in the population. During the year, 430 new houses have been erected, the increase in the township of Ferryhill being very noticeable on account of colliery developments. The death-rate is the lowest on record, and Dr. Hunton attributes the lowness to the prevalence of wet weather during the summer. There were only 14 fatal cases of diarrhœa, less than a quarter of the number in the previous year. Nevertheless the infant mortality-rate reached the high figure of 153. Dr. Hunton makes the following comments:—"On reference to table V., it will be found that more "than half the deaths occurring during the first year of life are "practically, so far as the infants themselves are concerned, non- "preventible, and are due to sociological causes, such as the "marriage of the unfit; the inability to obtain sufficient food in "a certain section of the community; the squandering of potential "vitality on alcohol; the vitiated taste for stimulating rather than "nutritious foods; the consumption of patent medicines, which, "frequently taken, lower the vitality, and at times are used "undoubtedly for ulterior purposes, and which, while not acting as "desired, result in the production of weaklings; and the indiffer- "ence of the community in general to the science of Eugenics."

### INFECTIOUS DISEASES.

Two hundred and three cases were notified, of which 122 were scarlet fever, 36 diphtheria and 14 enteric fever. Scarlet fever was not prevalent to any extent except at Ferryhill where there were 90 cases and at Trimdon 22 cases. Dr. Hunton is of opinion that at Ferryhill the spread of infection was encouraged by the over-crowded state of the schools, which are unable to accommodate the recent increase in population. Diphtheria was prevalent at Sedgefield where 21 cases occurred. No sanitary defects were found in the houses infected. Of the 14 cases notified of enteric fever, four cases proved on investigation to be some other diseases. The cases occurred at Bishopton, Sedgefield, Cornforth, Ferryhill and Trimdon. At Coxhoe, where the disease was epidemic last year, no case occurred since the beginning of the year.

Measles was prevalent throughout the district and caused 12 deaths. It was particularly fatal, 11 deaths being caused, at Ferryhill, and it was necessary to close and disinfect the schools. Dr. Hunton attributes the high mortality "to the fact that many "of these children lived in houses recently built and occupied on "completion, the resulting dampness thereof predisposing them "to the commonest and most serious complications of measles, "viz., broncho-pneumonia, from which many of them succumbed." During the year 54 cases of infectious disease have been treated at the isolation hospital, comprising 13 cases of diphtheria, 34 of scarlet fever and seven of enteric fever. The average case-mortality (5.6) compared very favourably with that of the cases treated outside.

### GENERAL SANITATION.

The water supply of all the farms in the northern district has been investigated and in five cases where the farm was situated at a reasonable distance from the mains of the Weardale and Consett Water Company a proper supply has been laid on. There now remain in this part only two farms which are dependent upon local supplies for their water. It is reported that the sewage disposal works of the district have all acted most satisfactorily, and that the new works at Bishop Middleham are nearing completion. During the year, 7,380 yards of new sewers have been laid. Dr. Hunton once more calls attention to the condition of the streets at Ferryhill, Cornforth and Trimdon, and strongly recommends his Council to take steps to have them made. He also calls attention to the desirability of the scavenging being undertaken at night time in populous centres. Four hundred and sixty-one nuisances have been abated as a result of notices. Forty-one ashpits and privies have been converted into ash-closets. The report contains no information concerning slaughter-houses and cowsheds, and the housing accommodation of the district is not specially alluded to. The lodging-houses are reported to be regularly inspected and an additional one has been registered at West Cornforth. Sixty-four inspections have been made of the

24 workshops in the district, and everything is reported to be satisfactory.

### SANITARY REQUIREMENTS.

1. The work of scavenging in populous centres should be performed during the night.

2. Steps should be taken to improve the condition of the back streets at Ferryhill, Cornforth and Trimdon.

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### SOUTH SHIELDS RURAL DISTRICT.

W. ARMSTRONG, L.R.C.P., Medical Officer of Health.

Area in Acres, 12,073. Estimated Population, 1907, 11,737.

Birth-rate.	Death-rate.	Zymotic death-rate.	Infant mortality-rate.
29.2	13.2	1.1	116

Phthisis death-rate, 1.19. Respiratory diseases death-rate, 2.04.

There is a slight increase in the chief mortality rates, but they are on the whole satisfactory. In the Union Workhouse there were 267 deaths of persons not belonging to the district which have been excluded, and the population of the workhouse is also not included in the district population.

### INFECTIOUS DISEASES.

The number of cases notified was 65, a decrease of 95 cases on the preceding year. There were notably few cases of scarlet fever (only 12 being recorded); while there were 20 cases of diphtheria, and 11 of enteric fever. Seventeen cases, viz., eight of scarlet fever and nine of enteric fever, were removed to the fever hospital. Diphtheria antitoxin is supplied free to necessitous cases. The necessity for provision of accommodation in the isolation hospital for cases of diphtheria is again urged.

### GENERAL SANITATION.

A satisfactory water-supply is obtained from the Sunderland and South Shields Water Company, though a few outlying farms are still dependent on wells, some of which are reported to be not

satisfactory. The sewerage and drainage for the district are reported to be at present sufficient for its needs and to be in good order. Constant complaints about the scavenging have been received from East, South, and West Boldon, and 28 notices have been served upon contractors of East and West Boldon. The contractors are farmers and attend to their work very irregularly. Dr. Armstrong recommends that in future no farmer should be given the contract, as they never do the work in a satisfactory or regular manner. There are 77 dairies and cow-sheds in the district which have been systematically inspected; some were found to be overcrowded and to require lime-washing, but it is added that these defects have, for the most part, been remedied. Thirteen notices have been served by the inspector on owners of slaughter-houses on account of insanitary premises, or the improper storage of offal. During the year 147 nuisances were abated, 52 formal notices having been served. Under the Factory and Workshop Act 48 inspections were made of the workshops, and, as a result of 11 notices, defects arising from want of cleanliness or other nuisances were remedied. The report deals at considerable length with inspections of individual properties, and gives details of defects ascertained, remedied, and requiring attention. Amongst other matters, it is mentioned that the drains in the yards of the Council Schools are defective and require attention, that nothing has been done to remedy the defects in the drainage system at the Harton Village Schools to which attention was called in the previous report; that the East Boldon water-course is in urgent need of cleaning out as far as Brockley Whins, and that steps should be taken to prevent its pollution. Dr. Armstrong concludes his report with the following paragraph:—

“ The general sanitation of the district is gradually improving, “ and I have every reason to believe that very shortly the district “ will be as good, if not better, as regards its sanitary conditions “ than any Rural District in the County. I would advise that “ more attention should be paid to the extension of sewers, which “ are now taxed to their utmost capacity, and also to the improve- “ ment of workmen’s cottages, as indicated in this report.”

## SANITARY REQUIREMENTS.

1. Accommodation in the Isolation Hospital for cases of Diphtheria.
2. The ventilation of sewers at Whitburn, Cleadon, and Monckton.
3. The enlargement of sewers at Boldon and Whitburn.
4. Public Urinals.
5. Street paving, especially at Boldon.

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## STOCKTON RURAL DISTRICT.

J. W. BLANDFORD, L.R.C.P., Medical Officer of Health.

Area in Acres, 34,539.	Estimated Population, 1907, 18,881.		
Birth-rate.	Death-rate.	Zymotic death-rate.	Infant mortality-rate.
27.5	13.2	1.0	107

Phthisis death-rate, 0.68.      Respiratory diseases death-rate, 2.91.

As an introduction to his report, Dr. Blandford reviews the sanitary improvements that have occurred in this district during the period of 25 years he has acted as Medical Officer of Health and makes the following remarks:—"Many changes and vast "sanitary improvements have been made in the district since I first "(25 years ago) presented to the Stockton Rural Sanitary Authority "a report. The sewers have nearly all been constructed and the "old open ashpits have disappeared and been replaced by ash- "closets, pans, or water-closets, resulting in a great reduction of "infectious diseases and improvements in the health of the people. "The provision for infectious diseases in hospitals has been "arranged for and the notification of infectious diseases brings "under the eye of the officials all cases occurring in the district. "Many other enactments have been passed, and so much greater care "is taken of the people to prolong and make life healthier, happier "and more comfortable. The result has been a great decrease in "preventable disease and a reduction of the death-rate from 19 to

“13.” The chief mortality statistics compare favourably with those of the previous year with the exception of the respiratory diseases death-rate, which is slightly increased, and the birth-rate shows a slight improvement, being 27.5 as compared with 26.2 in 1906. Owing to a smaller mortality from diarrhoea the infant mortality-rate shows considerable improvement, being only 107 as compared with 158 in the previous year.

### INFECTIOUS DISEASES.

Eighty-eight cases of infectious diseases were notified as compared with 149 in 1906. The most prevalent diseases were scarlet fever (41 cases), diphtheria (32 cases) and enteric fever (10 cases). Twenty-three of the cases were treated in the infectious diseases hospital. Scarlet fever was most prevalent in Billingham and Norton, but it was never epidemic at any time. The disease was of a mild type and only caused one death. Diphtheria is reported to have been present in the district generally, but never to any serious extent. Dr. Blandford took the precaution of having some of the children, who were complaining of sore throat, examined bacteriologically, and was thus able to detect mild cases which otherwise might have escaped attention and spread infection. Four cases of enteric fever occurred at Norton and three at Billingham. No local conditions could be found to account for the prevalence of the disease. Measles caused three deaths, and an extensive epidemic of this disease at Long Newton in August and September necessitated the closure of the schools at this place. Whooping cough is reported to have been very prevalent in the winter and spring in the eastern portion of the district, and was the cause of eight deaths. Pneumonia was also unusually fatal, probably on account of the cold autumn, and caused 40 deaths as compared with 19 in the year before.

### GENERAL SANITATION.

The greater part of the district is reported to have had a plentiful water supply from the Tees Valley Water Board, but this company have failed to give Wolviston a continuous supply, and

in consequence serious inconvenience is reported, as there was no other water supply to fall back upon. Cowpen Bewley and some of the agricultural parts are reported to have satisfactory supplies from pumps. The housing accommodation has been increased by 79 new houses of which 43 were built at Norton, 22 at Preston-on-Tees and 11 at Haverton Hill. Serious subsidences, caused by an underlying stratum of quicksand draining away into the salt-wells, have occurred at Billingham. The houses in several streets are stated to have suffered considerably. The report gives details of each locality, but no mention is made of the existence of insanitary property and no improvements are noted. Improved drainage for Norton is contemplated and an irrigation scheme for the sewage at Carlton Ironworks is reported to be nearing completion, and similar works are being constructed at Stillington. Scavenging is reported to have been performed satisfactorily at Wolviston and Whitton and in the agricultural districts, but at Haverton Hill (Billingham) it is stated that "the scavenger takes "the night soil from the closets out into the streets and leaves it "there sometime before the carts come to take it away." Dr. Blandford states that these back streets have been made or are about to be made, so that the nuisance connected with the scavenging will be considerably lessened. At Norton and Preston contracts for scavenging were placed with new contractors on account of the unsatisfactory performances of the former contractors. The Inspector of Nuisances reports that of 68 dairies and cowsheds, 31, or nearly one-half, are supplied with water from the Tees Valley Water Board. It is mentioned that the others are dependent upon pumps and ponds, but no remark is made as to the quality of the water thus obtained. Improvements are noted at several farms, and it is anticipated that further improvements may be obtained in others. Many streets have been scheduled for improvement, and it is probable that they will shortly be constructed and taken over. There are no common lodging-houses in the district, and no overcrowding is reported except that the accommodation in the Council School at Haverton Hill is insufficient. The slaughter-houses are stated to be "as satisfactory as

“private premises usually are.” No details are given in the report of the nuisances dealt with, but it is stated that many have been remedied during the past year.

### SANITARY REQUIREMENTS.

None mentioned.

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## SUNDERLAND RURAL DISTRICT.

ROBERT STOBO, M.B., B.Hy., Medical Officer of Health.

Area in Acres, 6,980.      Estimated Population, 1907, 28,819.

Birth-rate.	Death-rate.	Zymotic death-rate.	Infant mortality-rate.
35.7	15.0	1.1	128

Phthisis death-rate, 0.79.      Respiratory diseases death-rate, 2.88.

The population, estimated by ascertaining the number of inhabited houses, has increased to the extent of nearly 400. The birth-rate has increased from 33.2 in 1906. The chief mortality-rates show a slight decrease with the exception of the respiratory diseases death-rate. There were 433 deaths, 11 of which properly should not be included in this district. The great improvement in the infant mortality-rate is due to the small number of deaths from diarrhoea, which were only 9 as compared with 50 in the previous year. Dr. Stobo states in his report that his Council are willing to adopt the Notification of Births Act, 1907, and he is of the opinion that much good will result from the appointment of Lady Health Visitors. Of the 132 deaths occurring under the age of one year, 20 were due to premature birth, 22 to congenital defects, and six were caused by infectious diseases.

### INFECTIOUS DISEASES.

The one hundred and fifty-four cases notified during the year, included 98 cases of scarlet fever, 28 of diphtheria, and

11 of enteric fever. Scarlet fever was of a mild type, and only one death from this disease was registered. Only three of the parishes (Ryhope, Tunstall, and Fulwell,) were infected, and in no instances was it epidemic. Three out of the 28 cases of diphtheria proved fatal. Antitoxin is supplied free of charge by the District Council. Enteric fever was less prevalent, there being only 11 cases as compared with 36 in 1906. It is pointed out in the report that there has been no case of enteric fever at Tunstall throughout the whole year, and, further, that this freedom coincides with considerable improvements in the general sanitation. Many insanitary houses have been demolished within the past year, and the water-supply has been improved, and the sewers are about to be thoroughly overhauled. Ten out of the 11 cases were removed to hospital, and Dr. Stobo in this connection says—"I know of no preventative measure of eradicating typhoid fever so successful as the removal of the patient to the hospital. "When there are unpaved yards and insanitary privy-middens, "the removal of the patient prevents the fouling of the ground "with the patients' discharges, and, in my opinion, markedly "prevents the spreading of the disease." Measles was prevalent in the parishes of Ryhope and Hylton, and the closure of the schools was necessary in consequence. There were nine deaths from whooping cough, seven of which occurred in the parish of Tunstall, in reference to which Dr. Stobo says—"from the distribution of the disease, and from the result of inquiry amongst "the infected houses, I have no doubt that the disease was largely "spread by mothers taking their children into infected houses. "In house after house I either found a neighbour with a baby "comfortably settled down, or she would appear with her baby "during my visit. This savours more of selfishness than ignorance. Your Council has issued a warning by posters which I "hope may be successful." The accommodation at the fever hospital has been increased by the addition of a new pavilion, and it is now possible to isolate three different infectious diseases. Cases of typhoid fever, scarlet fever, and diphtheria are now being admitted for treatment. During the year 257 houses and

two schools have been disinfected, and 471 articles have been sterilised in the Thresh Steam Disinfector.

### GENERAL SANITATION.

The work of supplying the parish of Tunstall with a good water-supply has now been nearly completed by the Sunderland and South Shields Water Company, and there only remains three dairy farms in the outlying parts of the parish to be dealt with, and then the whole district will have an ample supply of good water. Fifty-two dwellings have been dealt with as being unfit for habitation. It is reported that 12 of these dwellings were demolished, that two were permanently closed, that eight back-to-back houses were converted into through houses, and that a plan for the re-construction of 23 others has been considered. Twenty ash-closets and 11 water-closets have been substituted for insanitary dilapidated privy-middens, and a considerable number of drains, gully-traps, etc., have been tested. Scavenging is reported to have been on the whole carried out very satisfactorily. Two-hundred and twenty-two informal and 287 formal notices have been served during the year, and, as a result, 487 nuisances have been abated. The 38 dairy farms and the premises of the 12 retail purveyors of milk are reported to have been systematically inspected. Improvements to two cowsheds possessing insufficient accommodation have been made, and dairy work at one farm, which is insanitary, is shortly to be discontinued. The cows have all been examined by a veterinary surgeon, and only one cow out of 498 was found to be suffering from tuberculosis of the udder. There are 30 workshops and bake-houses, all of which are carefully inspected, and a few sanitary defects which were found have been remedied.

### SANITARY REQUIREMENTS.

A separate water-tay to each house in the parish of Tunstall in place of the existing stand-pipes in the back streets.

## WEARDALE RURAL DISTRICT.

(Derwent Division).

ANDREW VEITCH, M.D., Medical Officer of Health.

Area in Acres, 13,144. Estimated Population, 1907, 440.

Birth-rate.	Death-rate.	Zymotic death-rate.	Infant mortality-rate.
6·8	11·3	Nil.	Nil.

Phthisis death-rate, nil. Respiratory diseases death-rate, nil.

The birth-rate is extraordinarily low.

## INFECTIOUS DISEASES.

There were no cases of notifiable diseases, but there were two cases of measles.

## GENERAL SANITATION.

The water supply is stated to be pure and abundant, and a new supply has been provided for a house at Edmondbyres. The house accommodation is ample, but a few of the older houses are built back-to-back. The general system of excrement disposal is that of the ashpit-privy, there being only two water-closets in the district.

The district is stated to have been visited several times by the Sanitary Inspector, and to be under the constant observation of the Medical Officer of Health. As regards milk shops and dairies, the report states, "there are no places where milk is "publicly exposed for sale, though this article is disposed of in "small quantities to neighbours by those persons who keep cows. "Many of the house-holders keep one or two cows for their own "domestic supply."

## SANITARY REQUIREMENTS.

None mentioned.

WEARDALE RURAL DISTRICT.  
(Stanhope Division).

JAMES BANNERMAN, M.B., Medical Officer of Health.

Area in Acres, 24,864. Estimated Population, 1907, 2,615.

Birth-rate.	Death-rate.	Zymotic death-rate.	Infant mortality-rate.
24.4	13.3	Nil.	46

Phthisis death-rate, 2.33. Respiratory diseases death-rate, 0.76.

The chief mortality statistics are satisfactory, with the exception of the phthisis death-rate, which is rather high. The birth-rate shows some improvement. The chief industries in the district are limestone and whinstone quarrying and lead mining, the latter having taken a new lease of life.

INFECTIOUS DISEASES.

The 38 cases notified included 23 of scarlet fever, and eight of diphtheria. The cases of scarlet fever, with one exception, all occurred at Rookhope. The outbreak, which originated at the school, necessitated the closure of the latter. Dr. Bannerman is of the opinion that there were many other cases of a mild type which escaped notice. At Frosterley there was a severe epidemic of measles, which also necessitated the closure of the schools.

GENERAL SANITATION.

The water-supply at Crawleyside has been improved by the laying of 100 yards of cast-iron piping. New pipes have also been laid also to Brown's houses, and action is being taken by the Council to compel the owners of Buckler Dale Farm to put in a new supply. The sewage disposal works at Rookhope have been extended, and now all the houses in the locality are connected with it. During the year two new houses have been erected, and four more are in course of construction. Reference is made in the report to a few nuisances which have been abated, but no mention is made of the dairies and cowbyres. As to the factories and workshops the report states that there are seven

limestone quarries and one whinstone quarry working in the district, and that there are no nuisances connected with them.

### SANITARY REQUIREMENTS.

None mentioned.

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## WEARDALE RURAL DISTRICT.

(St. John's Division).

JOHN EASTON, L.R.C.P., Medical Officer of Health.

Area in Acres, 36,096.      Estimated Population, 1907, 3,186.

Birth-rate.      Death-rate.      Zymotic death-rate.      Infant mortality-rate.

24.4	13.9	Nil.	76
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Phthisis death-rate, 1.25.      Respiratory diseases death-rate, 0.31.

The birth-rate and death-rate both show some improvement and the other mortality statistics are satisfactory. Dr. Easton gives figures which show that there has been a very satisfactory decline in the number of deaths from phthisis during the past 12 years.

### INFECTIOUS DISEASES.

There were nine cases notified as compared with 11 in 1906, and these comprised one case of diphtheria, three of scarlet fever, and five of erysipelas. Five houses and one school were disinfected.

### GENERAL SANITATION.

Part of the water supply of the district is now being derived from a new source—Chapel Fell. The water is stated to be abundant and to be of excellent quality. Improvements in the drainage of several houses and the provision of four new conveniences and improvements to three cowbyres are noted. A recommendation is made that a most insanitary cowbyre at St. John's Chapel, owned by the Ecclesiastical Commissioners, should be closed. Two nuisances in connection with cowbyres and one arising from improper housing of pigs, and 15 in connection with ashpit-privies have been abated during the year.

## SANITARY REQUIREMENTS.

1. Refuse depôts for the different villages.
2. The continuance of the work of improving the cowbyres.
3. The distribution of information to the public in regard to the best means of preventing phthisis or consumption.

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## WEARDALE RURAL DISTRICT.

(Wolsingham Division).

R. H. O. GARBUZZ, L.R.C.P., Medical Officer of Health.

Area in Acres, 21,552.      Estimated Population, 1907, 3,600.

Birth-rate.	Death-rate.	Zymotic death-rate.	Infant mortality-rate.
26·6	11·3	1·6	104

Phthisis death-rate, 0·55.      Respiratory diseases death-rate, 2·77.

The birth-rate shows some improvement and the death-rate is the lowest recorded during the past 10 years.

## INFECTIOUS DISEASES.

The 76 cases notified included 53 of scarlet fever, 17 of diphtheria and two of enteric fever. Scarlet fever was seriously prevalent during the first quarter and Dr. Garbutt states that "the disease was spread in the usual way by indiscriminate visiting at infected houses and a disregard of the most ordinary precautions." Dr. Garbutt urges his Council to provide an isolation hospital. The prevalence of diphtheria is attributed to the absence of efficient ventilation of the elementary schools. One of the sufferers from enteric fever was a scavenger who probably contracted the disease in the performance of his duties.

## GENERAL SANITATION.

The Weardale and Consett Water Company supply the district. Seven new houses have been connected with this supply this year, and a farm at present dependent on a polluted well is shortly to be supplied from the same source.

Three new houses have been erected and improvements to the conveniences of several houses are noted. One house in Meadhope Street has been closed as unfit for habitation, but no action has been taken to improve the insanitary conditions of the houses at Upper Town and West End to which Dr. Garbutt called attention in his report of last year. The scavenging is reported to have been carried out fairly satisfactorily. Improvements to three cowbyres are noted, but the others are again reported to be in a very unsatisfactory condition as regards ventilation, lighting and water supply. The six factories and six workshops in the district were found to be in order when they were inspected. During the year, 170 nuisances were abated as the result of the service of informal notices.

#### SANITARY REQUIREMENTS.

1. An Isolation Hospital and Ambulance for infectious cases.
2. Improvements to remedy the unhealthy condition of many of the cowbyres.
3. The abolition of insanitary and defective midden-privies in favour of ashclosets or preferably water-closets.

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### **PORT SANITARY DISTRICTS.**

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#### HARTLEPOOL PORT.

S. BIGGART, M.D., Medical Officer of Health.

*Hospital.*—The number of patients admitted into hospital was 50, a decline of 30 when compared with the previous year. Of these only three were removed from vessels, viz., two cases of typhoid fever and one of dysentery, the remainder being patients from the boroughs of West Hartlepool (44) and Hartlepool (3). Three of the cases treated in hospital proved fatal. It was decided to add cerebro-spinal meningitis to the list of diseases compulsorily notifiable in the Port Sanitary District, but no case was reported. Dr. Biggart states that the hospital is in a good sanitary condition and repair and that it is capable of meeting

the requirements of the locality. The drainage and sanitary arrangements installed last year are stated to be working satisfactorily.

*Inspection of Ships.*—Three cases of infectious disease as mentioned above were imported by vessels arriving at the Port. Ninety-two vessels were inspected by the Medical Officer of Health and there were nine re-visits, 50 being inspected on account of sickness, 18 owing to coming from suspected or infected ports, 13 on account of sanitary defects, and 10 for examination of crew and passengers. Careful attention was given to vessels arriving from ports infected or suspected to be infected by cholera and plague, but no case of these diseases came under notice. The number of vessels inspected by the Port Sanitary Inspectors was 1,759, and there were 299 re-visits, the nationality of the vessels numbering 804 British, 390 Swedish, 214 Norwegian, 103 German and 110 Danish.

*Structural and Sanitary Defects.*—The report states that 120 cases of structural defects were noted on vessels, of which 118 were remedied. Also 14 nuisances from choked water-closet pans were abated and numerous instances of dirty conditions were remedied.

## RIVER TYNE PORT.

W. EDMUND HARKER, M.D., D.Hy., Medical Officer of Health.

*Diseases on Shipboard.*—The following cases were reported:—

				On voyage.	On or after arrival.	
Small-pox and suspected small-pox				4	...	1
Measles	...	...	...	—	...	2
Typhus fever	...	...	...	2	...	—
Scarlet fever...	...	...	...	—	...	1
Enteric fever	...	...	...	11	...	9
Choleraic diarrhoea, etc.	...	...	...	7	...	3
Malarial fever	...	...	...	46	...	2
Dysentery	...	...	...	6	...	—
Influenza	...	...	...		59	

Vessels to the number of 42 were visited by the Medical Officer of Health on account of reported or suspected sickness, and a list of the vessels so boarded, and giving their nationality, port of departure, nature of sickness, and general remarks, is tabulated in the report.

During the year 23 cases were treated in the Floating Hospital, the patients all being removed from vessels, and one of them suffering from enteric fever, and another from pneumonia died. No cases of cholera or plague were imported during the year.

*Vessels from Infected or Suspected Ports.*—Eight hundred and thirty-two vessels were boarded by the Port Officers on account of their coming directly, or otherwise, from foreign ports infected, or suspected to be infected, with cholera, yellow fever, plague, or small-pox. The names of the infected or suspected ports are given in the report.

*Emigrants.*—The number of known emigrants passing through the port during 1906 was 4,488, and they were all bound for America. All emigrant vessels were inspected and kept under supervision, and information as to emigrants debarking and proceeding overland to other British ports continues to be forwarded to the respective ports.

*General Sanitary Work.*—The number of vessels inspected by the Port Inspectors was 9,905, and, in addition, 362 extra visits as well as visits to 18 water-boats and 17 gangways were paid. Of the vessels inspected, 6,164 were British, the others including 1,099 Norwegian, 731 German, 447 Swedish, 571 Danish, and 288 Spanish. In 1,106 of the vessels there were structural defects, and 236 were in a dirty condition. Details of structural defects are given in the report. The number of vessels coming from foreign ports which were inspected was 3,656. Special cargoes inspected numbered 1,431, the majority of the cargoes (1,245) being fish. Seven cargoes of frozen meat and canned provisions were inspected and found in good condition.

*Water-Supply.*—The water-boats were examined as usual and their tanks found to be in good condition, while the drinking-

water of 92 vessels, which came from ports infected, or suspected to be infected, with cholera, was changed and the tanks purified.

*Disinfection.*—Twenty-eight vessels and several lots of clothing and bedding were disinfected, while 461 old beds were burnt, and 12 lots of filthy clothing destroyed on account of infection.

Ten smoke nuisances were detected, and the offender in each instance was communicated with, while the cleansing of foul fishing-boats and cattle-ships was performed as usual under the supervision of the Inspectors.



TABLE A.

## TABLE GIVING POPULATION, BIRTH-RATE, DEATH-RATE, &amp;c., WITHIN THE URBAN DISTRICTS OF THE ADMINISTRATIVE COUNTY OF DURHAM.

URBAN DISTRICTS.	Medical Officer of Health.	Area in Acres.	Population Estimated, 1897	Births.	Deaths.	Birth-rate.	Death-rate.	Zymotic death-rate.	Infant Mortality per 1,000 Births.	Phthisis death-rate.	Lung Disease death-rate.	Number of cases Notified.	Hospital Accommo- dation?	Number of cases removed to Hospital.	Percent- age of Notified cases removed to Hospital.	Deaths occurring within District, excluded.	Deaths occurring within District, included.
<b>BORCHGS.</b>																	
Darlington ...	J. Lawrence, M.D. ...	3956	50000	1413	722	28.2	14.4	0.88	115	0.94	2.3	136	Yes	106	77.9	23	9
Durham ...	A. M. Vann, M.R.C.S. ...	1065	17200	444	296	25.8	17.2	1.28	137	1.22	2.84	31	Yes	14	45.1	68	5
Hartlepool ...	J. Rawlings, M.R.C.S. ...	735	24000	695	376	28.9	15.6	1.5	116	0.87	3.1	42	Yes	3	7.1	27	40
Jarrow ...	J. M. Nicoll, M.B. ...	1064	34700	1187	560	33.3	16.1	0.98	121	1.52	3.4	142	Yes	47	33.0	2	60
Stockton ...	Thomas Horne, M.D. ...	8031	55023	1662	955	30.2	17.3	1.7	115	1.25	3.43	210	Yes	128	60.9	34	16
<b>URBAN DISTRICTS.</b>																	
Annfield Plain ...	T. Benson, L.R.C.P. ...	3489	15200	514	231	33.8	15.2	1.57	142	0.72	3.15	120	Yes	39	32.5	..	21
Barnard Castle ...	A. H. Sevier, M.B. ...	560	4665	117	92	25.0	19.7	1.5	102	2.7	2.7	10	Yes	..	nil	17	3
Benfieldside ...	Wm. Allen, M.D. ...	1525	7650	232	146	30.3	19.0	1.43	155	1.66	2.87	24	Yes	6	25.0	..	7
Bishop Auckland ...	T. A. McCullagh, M.R.C.S. ...	691	12969	400	249	30.8	19.1	2.61	172	1.23	3.15	48	Yes	12	25.0	38	2
Blaydon ...	H. Morrison, M.B., B.S., B.Hy. ...	9323	25000	919	367	36.7	14.6	2.56	139	0.80	2.28	116	Yes	57	49.1	1	6
Brandon & Byshottles ...	H. Smith, M.D. ...	6669	17563	618	257	35.1	14.6	1.8	140	1.19	2.27	36	Yes	5	13.9	..	13
Consett ...	A. D. M. Macintyre, M.B. ...	1005	10783	338	175	31.3	16.2	0.92	139	0.64	3.15	31	Yes	3	9.6	1	16
Crook ...	A. Mackay, M.D. ...	4056	11800	361	207	32.2	17.5	2.7	165	0.76	3.9	66	Yes	27	40.9	..	11
Felling ...	W. E. Peacock, M.D., B.Hy. ...	2684	26300	870	439	33.0	16.6	2.4	125	1.06	3.08	151	Yes	..	nil	..	16
Hebburn ...	A. M. G. Walker, L.R.O.P. ...	1241	23577	833	375	35.3	15.9	1.68	129	0.97	3.6	163	Yes	94	57.6	..	33
Hetton-le-Hole ...	J. Adamson, M.D. ...	1617	14400	527	229	36.6	15.9	2.36	144	0.83	2.7	106	Yes	29	27.3	..	17
Houghton-le-Spring ...	D. S. Park, F.R.C.S. ...	1551	9425	346	154	36.7	16.2	1.16	147	1.06	2.97	62	Yes	8	12.9	15	6
Leadgate ...	Wm. Allen, M.D. ...	1836	4750	158	70	33.2	14.7	2.73	101	0.63	2.5	20	Yes	5	25.0	..	4
Ryton ...	James W. Smith, M.D. ...	5169	10800	351	141	32.5	13.0	2.12	125	0.46	1.57	97	Yes	12	12.3	..	6
Seaham Harbour ...	L. Gerald Dillon, M.D. ...	1101	11750	489	236	41.6	20.0	3.23	141	1.10	2.9	23	Yes	3	13.0	..	10
Shildon ...	S. Fielden, M.D. ...	1066	13403	433	249	32.3	18.5	2.23	182	0.89	4.17	113	Yes	55	48.6	..	11
Southwick-on-Wear ...	John J. Carruthers, M.B. ...	856	15148	536	244	35.3	16.1	1.7	132	0.5	2.9	73	Yes	39	53.4	..	39
Spennymoor ...	W. Mussellwhite, M.R.C.S., M.P.H. ...	3388	16842	693	365	41.1	21.6	4.2	154	1.06	4.03	82	Yes	56	68.2	..	17
Stanhope ...	John Gray, M.B. ...	216	1993	44	35	22.0	17.5	0.5	68	2.00	1.00	15	No*	..	..	2	1
Stanley ...	T. Benson, L.R.C.P. ...	3593	19000	715	293	37.3	15.4	1.6	177	0.31	2.81	115	Yes	56	48.7	..	8
Tanfield ...	T. Benson, L.R.C.P. ...	4779	9300	320	138	34.4	14.8	2.5	118	0.86	2.47	107	Yes	55	51.4	7	3
Tow Law ...	J. H. Naismith, M.D. ...	477	4371	134	55	30.6	12.5	1.3	97	0.22	2.51	17	Yes	..	nil	..	..
Whickham ...	Andrew Smith, M.D. ...	5914	15686	570	276	36.3	17.5	2.8	138	1.40	3.12	62	Yes	11	17.7	..	12
Willington ...	R. E. Brown, L.R.C.P. ...	3793	7949	294	124	36.9	15.4	2.7	142	0.50	3.01	55	Yes	37	67.2	7	13

\* Hospital accommodation for small-pox cases only.



TABLE A1.

## ADMINISTRATIVE COUNTY OF DURHAM.

## DEATHS AT CERTAIN AGES AND FROM CERTAIN SPECIFIED CAUSES.

URBAN DISTRICTS.	DEATHS AT SUBJOINED AGES.							DEATHS FROM SUBJOINED CAUSES.																																	
	At all ages.	Under 1 Year.	1 and under 5	5 and under 15	15 and under 25	25 and under 65	65 and upwards	Smallpox.	Mesenteritis.	Scarlet Fever.	Whooping Cough.	Diphtheria & Mesenteritis Group.	Group.	Typhus.	Fever.	Enteritis.	Other Cont'd.	Epidemic Influenza.	Diarrhoea.	Enteritis.	Puerperal Fever.	Erysipelas.	Other Septic Diseases.	Pititis.	Other Tubercular Diseases.	Cancer.	Malignant Disease.	Bronchitis.	Pneumonia.	Pleurisy.	Other Diseases of Respiratory Organs.	Pneumatocele.	Alcoholism.	Gout.	Chronic Disease of Liver.	Venereal Diseases.	Premature Birth.	Diseases and Accidents of Parturition.	Heart Diseases.	Accidents.	Suicides.
Darlington .. ..	722	163	89	22	30	226	192	..	4	1	21	4	5	..	5	..	13	4	1	..	..	..	..	..	47	28	36	81	32	2	19	3	4	1	1	279					
Durham .. ..	296	61	33	9	13	97	83	..	9	..	..	2	..	..	..	..	1	11	2	..	..	..	..	..	21	11	13	29	19	1	1	1	2	1	116						
Hartlepool .. ..	376	81	82	17	24	105	67	..	10	1	11	2	2	..	..	..	2	11	3	..	..	..	..	..	5	21	22	20	54	21	1	1	1	1	115						
Jarrow .. ..	560	141	73	38	25	175	108	..	2	4	2	4	..	..	4	..	3	18	1	..	2	10	53	26	18	37	81	..	14	1	1	1	171								
Stockton .. ..	973	192	162	89	36	314	230	..	31	..	25	12	..	..	8	..	7	19	3	..	..	..	..	9	69	60	41	94	85	3	12	8	1	42	3	817					
Annfield Plain .. ..	231	73	28	13	12	66	39	..	4	3	7	3	..	..	4	..	1	3	..	2	..	..	..	11	9	3	36	9	3	..	2	..	10	1	17	11	1	91			
Barnard Castle .. ..	109	12	9	2	5	43	38	..	2	..	1	..	1	..	..	..	4	3	..	..	..	..	..	13	6	6	3	..	3	2	..	3	2	20	2	..	27				
Benfieldside .. ..	146	36	15	3	8	54	30	..	3	..	1	1	..	..	..	..	1	6	2	..	..	..	..	12	6	7	5	17	..	6	3	..	3	..	19	2	2	50			
Bishop Auckland .. ..	249	69	38	8	12	75	47	..	19	1	4	1	..	..	..	..	10	9	..	..	..	..	..	16	22	8	33	7	1	..	1	1	9	4	15	5	2	81			
Blaydon .. ..	367	128	63	14	19	96	47	..	25	2	2	8	..	..	2	..	2	25	3	..	..	4	20	17	14	15	37	5	5	2	4	32	3	26	14	2	98				
Brandon & Byshottles .. ..	257	87	31	12	12	73	42	..	6	..	13	2	..	..	1	..	2	10	1	..	..	..	..	21	9	10	15	23	2	4	1	..	10	3	20	8	1	95			
Consett .. ..	175	47	21	5	6	67	29	..	3	..	3	3	..	..	..	..	1	1	..	1	..	..	..	7	11	7	9	25	..	1	2	..	17	3	22	3	1	55			
Crook .. ..	207	63	32	6	15	54	37	..	7	3	12	1	1	..	1	..	6	7	4	..	..	..	..	9	3	4	22	24	..	..	2	..	6	..	23	7	1	59			
Felling .. ..	423	109	75	23	21	125	70	..	20	9	20	2	1	..	3	..	3	10	..	1	..	..	..	28	51	19	31	45	5	2	4	1	41	3	30	12	..	82			
Hebburn .. ..	375	108	51	22	29	107	58	..	18	1	2	6	..	..	4	..	4	9	2	1	2	3	23	21	8	42	43	1	..	..	..	20	4	38	10	3	110				
Hettton-le-Hole .. ..	229	76	19	19	12	56	47	..	4	..	6	4	..	..	3	..	3	17	3	..	..	..	12	7	7	22	18	..	..	2	..	32	4	17	9	..	59				
Houghton-le-Spring .. ..	154	51	23	7	3	43	27	..	4	..	1	2	..	..	..	..	4	1	..	..	..	..	10	7	10	8	20	..	..	..	..	4	..	14	3	3	63				
Leadgate .. ..	70	16	10	1	3	24	16	..	4	..	1	..	..	..	..	..	1	8	2	..	1	..	..	3	2	2	6	6	..	..	2	..	1	..	5	5	..	21			
Ryton .. ..	135	44	21	4	5	32	29	..	7	1	2	4	1	..	1	..	1	7	..	..	..	..	1	5	6	5	15	2	..	..	1	..	7	1	11	6	1	50			
Seaham Harbour .. ..	236	69	52	8	5	61	41	..	22	..	11	3	..	..	1	..	3	1	..	..	..	..	2	13	25	6	7	27	1	..	..	..	16	2	16	14	..	66			
Shildon .. ..	249	79	45	10	10	69	86	..	9	..	7	3	2	..	4	..	..	5	4	..	1	1	12	10	5	31	22	3	..	1	..	6	..	25	6	2	90				
Southwick-on-Wear .. ..	241	71	33	11	8	76	45	..	10	..	3	..	..	..	3	..	..	10	..	..	1	..	8	11	7	27	18	..	1	1	1	7	5	11	7	2	111				
Spennymoor .. ..	365	107	74	12	27	96	49	..	29	1	3	5	1	..	4	..	2	29	2	..	1	13	18	12	18	20	47	1	..	2	..	22	2	26	14	..	93				
Stanhope .. ..	32	3	..	2	1	13	13	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	4	2	1	1	1	..	1	..	..	1	9	1	..	10				
Stanley .. ..	293	127	48	12	15	63	28	..	18	2	2	3	..	..	4	..	1	3	4	1	1	..	6	18	10	41	13	1	..	2	..	17	..	32	9	2	103				
Tanfield .. ..	142	38	21	9	11	42	21	..	3	3	4	8	..	..	4	..	1	2	1	1	..	..	8	7	7	12	11	..	..	..	..	3	..	8	1	1	57				
Tow Law .. ..	55	13	6	1	3	20	12	..	2	..	2	..	..	..	..	..	..	2	..	..	..	..	1	2	3	8	3	..	5	1	..	..	7	2	..	17					
Whickham .. ..	276	79	47	15	10	78	47	..	25	1	8	3	..	..	..	..	1	5	..	1	1	2	22	12	12	27	20	..	2	1	..	15	..	19	3	..	96				
Willington .. ..	124	42	16	1	3	29	33	..	9	2	2	..	..	..	..	..	4	9	..	1	..	4	1	2	15	9	..	..	..	6	1	12	4	..	43						
TOTAL ..	8070	2185	1217	345	383	2379	1561	..	300	85	176	87	14	..	56	..	82	248	39	8	11	50	497	429	309	746	694	31	78	53	20	399	61	726	250	37	2625				

The difference between the total deaths in some districts in this Table and the figures given in Table A. is due to the incompleteness of the statistics in the Annual Reports of the district Medical Officers of Health.



TABLE B.

## TABLE GIVING POPULATION, BIRTH-RATE, DEATH-RATE, &amp;C., WITHIN THE RURAL DISTRICTS OF THE ADMINISTRATIVE COUNTY OF DURHAM.

RURAL DISTRICTS.	Medical Officer of Health.	Area in Acres.	Population (Estimated).	Births.	Deaths.	Birth-rate.	Death-rate.	Zymotic death-rate.	Infant Mortality per 1,000 Births.	Phthisis death-rate.	Lung Disease death-rate.	Number of Cases Notified.	Hospital accommodation?	Number of cases removed to Hospital.	Percentage of Notified Cases removed to Hospital.	Deaths occurring within District, excluded.	Deaths occurring outside District, included.
Auckland	J. G. Willis, L.R.C.P., D.P.H.	57394	59045	2028	929	34.3	15.7	1.9	123	0.86	2.65	280	Yes	60	21.4	10	33
Barnard Castle	James C. Nelligan, L.R.C.S.	73961	11660	276	178	23.6	15.2	0.6	130	0.77	1.28	52	Yes	4	7.6	..	7
Chester-le-Street	J. Taylor, M.D., D.P.H.	84620	72911	2534	1199	34.7	16.4	1.5	148	0.79	2.64	498	Yes	43	8.6	..	10
Darlington	Robert H. Meikle, M.B.	42019	9591	273	167	28.4	19.4	0.4	102	1.14	2.71	42	Yes†	5	11.9	..	18
Durham	A. T. Harrison, L.S.A.	31053	28568	933	506	32.6	17.7	2.4	143	1.08	2.73	79	Yes	40	50.6	14	20
Easington	J. Arthur, L.R.C.P., D.P.H.	37018	52336	1809	917	34.5	17.5	2.5	162	0.76	2.80	508	Yes	34	6.6	5	24
Hartlepool	T. G. Ainsley, M.D.	19090	2355	44	34	18.6	14.4	0.4	113	nil	2.54	2	Yes†	..	nil	121	..
Houghton (Northern Division)	D. S. Park, F.R.C.S.	8398	16830	642	282	38.1	16.7	0.8	163	0.77	3.08	103	Yes	5	4.8	..	12
Houghton (Southern Division)	J. R. Sutherland, L.R.C.P.	4794	4824	166	70	34.4	14.5	1.0	120	0.82	2.90	26	Yes	5	19.2	4	3
Landchester (Lanchester Division)	J. Wilson, M.D.	29949	22114	749	316	33.8	14.2	2.0	133	0.90	3.34	64	Yes	11	17.1	46	9
Landchester (Medomsley Division)	W. T. Bolton, L.R.C.P.	21193	8815	241	110	27.4	15.8	1.7	178	1.24	3.06	30	Yes	16	53.3	..	..
Sedgefield	Frederick Hunton, M.D.	45006	28211	945	414	33.4	14.6	1.5	153	0.67	2.23	203	Yes	54	26.6	184	5
South Shields	W. Armstrong, L.R.C.P.	12073	11737	343	155	29.2	13.2	1.1	116	1.19	2.04	65	Yes	17	26.1	267	2
Stockton	J. W. Blandford, L.R.C.P.	34539	18881	521	261	27.5	13.2	1.0	107	0.68	2.91	88	Yes†	23	26.1	..	17
Sunderland	Robert Stoho, M.B., B.Hy.	6980	28819	1031	433	35.7	15.0	1.1	128	0.79	2.88	154	Yes	42	27.2	..	35
Weardale (Derwent Division)	Andrew Veitch, M.D.	13144	440	3	5	6.8	11.3	nil	nil	nil	nil	..	..	..	..	..	1
Weardale (Stanhope Division)	James Bannerman, M.B.	24864	2615	64	35	24.4	13.3	nil	46	2.33	0.76	38	No*	..	..	..	1
Weardale (St. John's Division)	John Easton, L.R.C.P.	36006	3186	78	44	24.4	18.9	nil	76	1.25	0.31	9		..	..	..	..
Weardale (Wolsingham Div.)	R. H. O. Garbutt, L.R.C.P.	21552	3600	96	41	26.6	11.3	1.6	104	0.55	2.77	76		..	..	..	..

\* This district has hospital accommodation for small-pox cases only.  
in the adjoining urban district.

† In these districts arrangements have been made by which fever patients may be removed to the hospital



TABLE B1.

ADMINISTRATIVE COUNTY OF DURHAM.

DEATHS AT CERTAIN AGES AND FROM CERTAIN SPECIFIED CAUSES.

RURAL DISTRICTS.	DEATHS AT SUBJOINED AGES.										DEATHS FROM SUBJOINED CAUSES.																																
	At all Ages.		Under 1 Year.	1 and under 6	5 and under 15	15 and under 25	25 and under 55	65 and upw'ards	Small-pox.	Messrs.	Scarlet Fever.	Whooping Cough.	Wintbberia & Malaria.	Group.	Croup.	Typhus.	Fevers.	Infective.	Other Contag'd.	Epidemic Influenza.	Diarrhoea.	Enteritis.	Perpetual Fever.	Enteritis.	Phthisis.	Other Septic Diseases.	Cancer.	Malignant Disease.	Bronchitis.	Pneumonia.	Plague.	Other Diseases.	Premature Birth.	Diseases and Accidents of Parturition.	Heart Disease.	Accidents.	Suicides.	All other Causes.					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43
Auckland ..	930	250	143	33	44	272	188	..	55	6	17	5	..	..	10	..	14	25	12	1	1	3	51	33	34	72	48	5	33	8	1	35	13	6	27	8	2	109					
Barnard Castle ..	178	38	11	3	6	64	56	..	7	..	..	..	..	..	2	..	7	42	6	8	1	12	58	57	49	58	135	5	23	8	2	65	11	93	39	8	440						
Chester-le-Street ..	1199	376	173	61	48	300	241	..	45	2	4	19	..	..	2	..	7	42	6	8	1	12	11	10	14	13	13	..	3	3	7	1	9	3	2	57							
Darlington ..	169	23	11	6	13	56	55	..	6	..	3	..	2	..	1	..	7	4	..	..	..	..	31	18	17	39	35	4	7	..	..	26	6	42	12	2	186						
Durham ..	506	190	88	17	21	135	115	..	40	1	1	5	..	..	4	..	8	18	4	..	..	..	40	37	22	88	57	2	9	7	1	72	28	53	35	3	301						
Easington ..	917	295	161	61	39	203	158	..	37	8	30	25	4	..	4	1	7	28	10	1	..	7	..	1	1	3	3	..	..	..	4	..	3	8	..	10							
Hartlepool ..	34	5	2	2	2	13	10	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..						
Houghton (Northern Division)	282	105	34	10	10	71	52	..	6	1	3	1	..	..	..	..	1	3	2	..	..	..	13	11	12	44	18	..	1	1	..	13	6	27	8	2	109						
Houghton (Southern Division)	70	20	9	1	5	18	17	..	4	..	..	..	1	..	1	..	..	..	..	..	..	..	4	1	8	10	4	..	3	1	..	4	2	5	3	..	19						
Lanchester (Lanchester Division)	316	160	50	15	11	73	67	..	21	1	4	7	..	..	2	..	..	10	1	..	1	..	20	10	9	33	40	1	1	1	..	16	1	14	11	..	112						
Lanchester (Medomsley Division)	140	40	28	2	7	42	21	..	9	..	2	3	..	..	..	..	2	4	..	2	..	..	11	5	11	7	19	1	..	..	..	5	..	12	1	..	46						
Sedgefield ..	414	145	59	24	25	99	62	..	12	3	2	8	1	..	5	..	1	14	9	1	2	3	19	7	11	36	27	..	7	1	..	34	2	24	15	1	169						
South Shields ..	155	29	12	12	15	47	40	..	..	4	4	..	..	4	..	1	2	..	..	..	..	14	5	15	8	15	1	1	1	..	6	3	9	7	..	55							
Stockton ..	261	56	19	9	17	93	67	..	3	1	8	2	1	..	..	9	5	3	..	..	..	13	7	13	13	40	2	2	2	..	23	2	20	10	..	82							
Sunderland ..	433	132	57	15	26	111	92	..	9	1	9	3	4	..	2	..	2	9	2	..	2	1	23	21	12	38	42	3	11	2	..	21	..	46	22	2	146						
Weardale (Derwent Division)	5	..	..	..	..	3	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	2						
Weardale (Stanhope Division)	35	3	1	..	5	12	14	..	..	..	..	..	..	..	..	4	..	..	..	..	..	..	5	1	3	2	..	..	..	..	..	..	..	..	..	..	8						
Weardale (St. John's Division)	44	6	..	1	2	18	17	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	4	..	2	..	1	..	..	..	..	..	..	..	..	..	19						
Weardale (Wolsingham Div.)	41	10	2	5	..	8	16	..	1	2	..	..	..	..	1	..	1	1	..	..	..	..	2	1	3	2	8	..	1	..	..	3	..	2	1	..	12						
<b>TOTAL</b> ..	6129	1768	860	277	296	1638	1290	..	255	26	87	82	13	..	37	1	67	166	50	13	9	26	328	232	243	473	512	25	103	39	4	348	75	467	212	27	2200						

The difference between the total deaths in some districts in this Table and the figures given in Table B. is due to the incompleteness of the statistics in the Annual Reports of the district Medical Officers of Health.



**TABLE C.**

Tabulated Statement of the chief Vital Statistics of the Administrative County of Durham for the year 1907, compiled from the monthly returns supplied to the County Medical Officer by the Registrars.

**1907.**

	Population (Estimated 1907).	Births.	Deaths.	Zymotic Deaths.	Birth- rate.	Death- rate.	Per 1 000 Population.			Deaths under 1 year per 1000 Births.	Percentage of Uncertified Deaths to Total Deaths
							Zymotic Death-rate.	Phthisis Death-rate.	Bronchitis, Pneum'nia & Pleurisy Death-rate.		
Boroughs	176,614	5,377	2,931	246	30.4	16.5	1.39	1.19	3.26	118	3.4
Other Urban Districts	303,460	10,829	5,127	718	35.6	16.8	2.36	0.94	3.09	142	3.5
Rural Districts	352,826	12,787	6,147	693	36.2	17.4	1.96	0.90	3.00	138	2.7
Administrative County	832,900	28,993	14,205	1,657	34.8	17.0	1.98	0.98	3.09	136	3.2
England and Wales	34,945,600	917,636	524,321	43,953	26.3	15.0	1.26	.....	.....	118	1.4



TABLE D

## INSPECTORS' REPORTS—URBAN



TABLE D1.

## INSPECTORS' REPORTS—RURAL

